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CONSTRUCTION COSTS OF EDUCATIONAL FACILITIES

An Annotated Reference List

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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CONSTRUCTION COSTS OF EDUCATIONAL FACILITIES

An Annotated Reference List

Prepared By

Howard E. Wakefield

Director

ERIC Clearinghouse on Educational Facilities

The University of Wisconsin

Madison

November, 1968

FOREWORD

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Clearinghouse Accession No.

ERIC Document No. (Available from EDRS)

Clearinghouse Information Code

EF 001 080 ED 016 359 CERS 2

Title — THE INSTRUCTIONAL MATERIALS CENTER

Author(s) — BY- KLOSTER, ALEXANDER J.

Institution Source — MICHIGAN DEPARTMENT OF EDUCATION, LANSING

Date Published — PUBLISHED- 65

Report No. or Journal Citation — IN- BULLETIN NO. 369

Pagination — 071 PAGES

DESCRIPTORS- *AUDIOVISUAL AIDS, *INSTRUCTIONAL MATERIALS, *INSTRUCTIONAL MATERIALS CENTERS, *LIBRARIES, CARRELS, INDIVIDUAL STUDY, STUDY FACILITIES

Index Terms (Major terms are preceded by an asterisk)

Abstract — THIS BULLETIN PRESENTS RECOMMENDATIONS WITH REGARD TO PROGRAM, PERSONNEL, AND FACILITIES FOR AN INSTRUCTIONAL MATERIALS ORGANIZATION AND LAYOUTS FOR AN INSTRUCTIONAL MATERIALS CENTER. CASE STUDIES AND EXAMPLES ARE PROVIDED FOR MAKING THE MAXIMUM POSSIBLE USAGE OF THE CENTER WITHIN BOTH THE SCHOOL AND THE COMMUNITY. (BD)

ANNOTATED REFERENCES

ERIC/CEF DOCUMENT NO. EF000006 DISPOSITION-EDC- 1

COLLEGE STUDENTS LIVE HERE (A STUDY OF COLLEGE HOUSING)

BY- RIKER, HAROLD C. AND LOPEZ, FRANK G.
EDUCATIONAL FACILITIES LABORATORIES, INC., NEW YORK, N. Y.

PUBLISHED- 61

155 PAGES

DESCRIPTORS- *BUILDING DESIGN, *COLLEGE HOUSING, *COLLEGE PLANNING, *CONSTRUCTION COSTS, *DESIGN NEEDS, BUILDING EQUIPMENT, BUILDING INNOVATION, COLLEGE BUILDINGS, DESIGN PREFERENCES, DORMITORIES, HOUSING NEEDS, PHYSICAL ENVIRONMENT, STUDENT NEEDS, TEACHER HOUSING

A REPORT PROVIDING A BROAD OVERVIEW OF PROBLEMS AND PRACTICES IN THE DESIGN OF COLLEGE HOUSING FACILITIES. MAJOR TOPICS INCLUDE (1) CHARACTERISTICS OF STUDENT POPULATIONS, (2) TYPES OF HOUSING SOLUTIONS, (3) ENVIRONMENTAL COMPONENTS AND CRITERIA, (4) PLANNING METHODS, AND (5) FINANCING CONSIDERATIONS. THE DISCUSSION IS CENTERED AROUND THE NEEDS OF STUDENTS AND THE ROLE OF HOUSING IN THE EDUCATIONAL ENVIRONMENT. SPECIFIC MATERIAL IS INCLUDED ON HOUSING FOR GRADUATE AND MARRIED STUDENTS AND FACULTY. DATA IS SUPPLIED FOR (1) HOUSING NEEDS, (2) SPACE REQUIREMENTS, AND (3) BUILDING COSTS. A LARGE NUMBER OF EXAMPLES ARE PROVIDED SHOWING EXISTING SOLUTIONS, WITH PHOTOGRAPHS AND FLOOR PLANS. THIS DOCUMENT IS AVAILABLE FROM THE EDUCATIONAL FACILITIES LABORATORIES, 477 MADISON AVENUE, NEW YORK 22, NEW YORK. (MM)

ERIC/CEF DOCUMENT NO. EF000026 ED013527 DISPOSITION-CERS 1

COST MODEL FOR LARGE URBAN SCHOOLS

DEPARTMENT OF HEALTH, EDUCATION AND WELFARE, WASHINGTON, D.C.

PUBLISHED- 67
IN- TECHNICAL NOTE, NO. 30

026 PAGES

DESCRIPTORS- *COSTS, *SCHOOL CONSTRUCTION, *URBAN EDUCATION, CAPITAL, EQUIPMENT, EXPENDITURES, SCHOOL LOCATION, TRANSPORTATION

THIS DOCUMENT CONTAINS A COST SUBMODEL OF AN URBAN EDUCATIONAL SYSTEM. THIS MODEL REQUIRES THAT PUPIL POPULATION AND PROPOSED SCHOOL BUILDING ARE KNOWN. THE COST ELEMENTS ARE--(1) CONSTRUCTION COSTS OF NEW PLANTS, (2) ACQUISITION AND DEVELOPMENT COSTS OF BUILDING SITES, (3) CURRENT OPERATING EXPENSES OF THE PROPOSED SCHOOL, (4) PUPIL TRANSPORTATION COSTS, (5) INSTRUCTIONAL EQUIPMENT COSTS, AND (6) DEBT SERVICE COSTS. VARIABLES CITED THAT DETERMINE CONSTRUCTION COSTS OF NEW SCHOOLS ARE ADMINISTRATION COSTS, SPACE PER PUPIL, TOTAL PUPILS, AND THE SQUARE FOOT COST. FROM EVIDENCE PRESENTED, THE ASSUMPTION THAT LARGER SCHOOL PLANTS COST LESS PER PUPIL CANNOT BE SUPPORTED. QUANTITY RATHER THAN QUALITY OF BUILDING WAS CONSIDERED. LAND COSTS ARE DETERMINED BY COST PER ACRE, LAND NEEDED FOR TYPE OF SCHOOL, LAND NEEDED PER PUPIL, AND TOTAL NUMBER OF PUPILS. CURRENT OPERATING COSTS ARE ESTIMATED FROM SALARY LEVEL AND NUMBER OF STAFF, EDUCATIONAL LEVEL AND NUMBER OF PUPILS, AND TEACHER-PUPIL RATIO. TRANSPORTATION EXPENSES ARE DETERMINED FROM EQUIPMENT COST, MAINTENANCE AND STORAGE COST, PUPILS TRANSPORTED, EFFECTIVE CAPACITY OF BUS PER MILE COST OF OPERATION, BUS SPEED, AND PUPIL COLLECTION TIME. INSTRUCTIONAL EQUIPMENT COSTS ARE DETERMINED FROM PURCHASE AND MAINTENANCE COSTS, AND NUMBER OF PUPILS USING EQUIPMENT. DEBT SERVICE COSTS ARE ESTIMATED FROM CONSTRUCTION, BUS, EQUIPMENT, LAND PURCHASE, INTEREST VARIABLES, AND AMORTIZATION SCHEDULE. (JZ)

ERIC/CEF DOCUMENT NO. EF000027 ED 013 528 DISPOSITION-CERS 1

URBAN EDUCATION SYSTEMS ANALYSIS

BY- CLARK, STEPHEN C. AND O BRIEN, RICHARD J. AND CASE, C. MARSTON
DEPARTMENT OF HEALTH, EDUCATION AND WELFARE, WASHINGTON, D.C.

PUBLISHED- 67
IN- TECHNICAL NOTE, NO. 24

016 PAGES

DESCRIPTORS- *COSTS, *DECISION MAKING, *DEMOGRAPHY, *SYSTEMS ANALYSIS, *URBAN EDUCATION, ESTIMATED COSTS, SCHOOL DEMOGRAPHY

ANALYSIS OF URBAN EDUCATIONAL SYSTEMS MAY BE ACHIEVED BY USE OF AN ANALYTICAL MODEL. THE MODEL MAY BE USED IN DECISION-MAKING REGARDING SCHOOL LOCATION, ENROLLMENT, FACILITIES, ORGANIZATION, PROGRAMS AND COSTS. KNOWN DATA SUCH AS MONIES AVAILABLE, STAFF ALLOCATION, AND CURRENT SCHOOL PLANT ARE INTRODUCED INTO THE MODEL. IN THE STRUCTURE OF THE MODEL--(1) AN INITIAL INVESTMENT POLICY (BUILDING) IS PROPOSED BY THE ADMINISTRATOR. THE PROPOSAL IS RELATED TO (2) AN URBAN SUBMODEL WHICH COMBINES PUPIL POPULATION, LOCATION, TRANSPORTATION NEEDS, AND SOCIO-ECONOMIC CHARACTERISTICS OF THE COMMUNITY, (3) SCHOOL SUBMODEL WHICH DESCRIBES THE SCHOOL PROGRAM, SITE SPECIFICATIONS AND DEVELOPMENT PLANS, STAFF SPECIFICATIONS, AND SPACE AND EQUIPMENT PROVISIONS PER PUPIL BY INSTRUCTIONAL AREA, AND (4) COST SUBMODEL WHICH HELPS TO ESTIMATE ACCURATELY TOTAL PER PUPIL EXPENDITURE FOR REMODELING EXISTING FACILITIES COMPARED TO NEW SITE AND CONSTRUCTION PROPOSALS, PER PUPIL TRANSPORTATION EXPENDITURES, AND CURRENT OPERATION COSTS. IN AN INTERACTION SUBMODEL (5), SUBMODELS (2), (3), AND (4) ARE SUMMED. SUBMODEL (6) EVALUATES BENEFITS AND COSTS PER PUPIL IN RELATION TO EDUCATIONAL OBJECTIVES, CAUSING EXAMINATION SUBMODEL (7), THROUGH FEEDBACK, TO ALTER THE ORIGINAL PROPOSAL (1), JUSTIFYING, MODIFYING, OR ELIMINATING THE INITIAL INVESTMENT POLICY. (BD)

ERIC/CEF DOCUMENT NO. EF000029 DISPOSITION-CERS 2

A STUDY OF THE FEASIBILITY OF PROVIDING STATE SCHOOL BUILDING FUNDS FOR RENOVATION OR MODERNIZATION OF SCHOOL BUILDINGS AND CTHER SCHOOL FACILITIES

WASHINGTON STATE BOARD OF EDUCATICN, OLYMPIA

PUBLISHED- 63

REPORT/SERIES NO.- RR-09-01

041 PAGES

DESCRIPTORS- *SCHOOL MODERNIZATION, *BUILDING EVALUATION, *ARCHITECTURAL DESIGN, COST, SANITATION, SCHOCL LOCATION, SAFETY, CITY PLANNING, PROGRAM SANITATION

THIS REPORT INCLUDES GUIDELINES FOR THE MODERNIZATION OF SCHOOLS TO REPLACE SUBSTANDARD CLASSROOMS. THE CONCLUSIONS WERE THAT IF MODERNIZATION COSTS DO NOT EXCEED 20 TO 40 PERCENT OF THE COST OF NEW OR REPLACEMENT CONSTRUCTION MODERNIZATION IS FEASIBLE. VARIABLES MEASURED IN MODERNIZATION DECISIONS INCLUDE SITE, TYPE OF INTERIOR AND EXTERIOR CONSTRUCTION, AND THE NUMBER CF TEACHING STATIONS. THE TEACHING STAFF NEEDS TO CORRELATE EDUCATIONAL CHANGES WITH PROPOSED BUILDING CHANGES, BUILDING CHANGES MUST BE REVIEWED IN COORDINATION WITH THE LOCAL PLANNING COMMISSION, FIRE AND HEALTH OFFICIALS, ENGINEERING OFFICE, AND ARCHITECUUTAL SERVICES. FROM SUCH INVESTIGATION A MODERNIZATION COST SCHEDULE CAN BE DEVISED TO FACILITATE A MODERNIZATION CECISICN. AN INCIDENTAL CONSIDERATION TO THIS WASHINGTON STUDY WAS A FORMULA FOR STATE AID FOR MODERNIZATION COSTS AND A STATEMENT OF THE ROLE OF THE STATE EDUCATIONAL DEPARTMENT IN MODERNIZATION SHOULD IMPROVE THE SAFETY, SANITATION CONDITIONS, AND THE EDUCATIONAL ADEQUACY. THE AUTHORS CONCLUDED THAT MODERNIZATION DOES NOT REDUCE OVERCTOWED CONDITIONS OR PROVIDE ADDITIONAL APACES FOR INCREASED ENROLLMENTS. HOWEVER, MODERNIZATION WILL DELAY REPLACEMENT OF CERTAIN BUILDINGS FOR A NUMBER OF YEARS AND IN SOME INSTANCES SOME ECONOMY CAN BE REALIZE) THE APPENDIZ INCLUDES THE PRELIMINARY MODERNIZATION SURVEY INSTRUMENT DEVELOPED IN THE WASHINGTON PROGRAM.

ERIC/CEF DOCUMENT NO. EF000046 ED 013 530 DISPOSITION-UFRC 1

UNIVERSITY RESEARCH BUILDINGS FOR SHORT-TERM GRANT PROGRAMS

UNIVERSITY FACILITIES RESEARCH CENTER, MADISON, WISCONSIN

PUBLISHED- 61

030 PAGES

DESCRIPTORS- *COLLEGE PLANNING, *CONSTRUCTION COSTS, *GUIDELINES, *RESEARCH AND DEVELOPMENT CENTERS, *SCHOOL LOCATION, COLLEGE BUILDINGS, CONSTRUCTION NEEDS, PROGRAM ADMINISTRATION

GUIDELINES WERE ESTABLISHED TO ASSIST IN THE PLANNING AND DEVELOPMENT OF ADEQUATE FACILITIES FOR SHORT-TERM RESEARCH GRANT PROGRAMS. FUNCTIONAL CRITERIA WERE DEVELOPED FROM THE ANALYSES OF COST STUDIES AND A SURGE SPACE STUDY AT THE UNIVERSITY OF ILLINOIS. ALTERNATIVES WERE SUGGESTED FOR THE PROVISION, PHYSICAL CHARACTERISTICS, SITE LOCATION, BUILDING TYPE AND ADMINISTRATIVE CONTROL OF THE FACILITIES. IT WAS RECOMMENDED THAT FLEXIBILITY, ECONOMY AND EXPANDIBILITY BE INTEGRATED WITH OVERALL CAMPUS PLANNING IN THE SELECTION OF AN APPROPRIATE SOLUTION. THE APPENDIX INCLUDES SEVERAL ALTERNATIVE FLOOR PLANS AND A COST BREAKDOWN FOR THE SURGE UNIT AT THE UNIVERSITY OF ILLINOIS. (JP)

ERIC/CEF DOCUMENT NO. EF000069 DISPOSITION-EDC- 1

A COLLEGE HEALTH CENTER

BY- BARD, BERNARD
EDUCATIONAL FACILITIES LABORATORIES INC., NEW YORK, N. Y.

PUBLISHED- 63
IN- CASE STUDIES OF EDUCATIONAL FACILITIES, NO. 6

35 PAGES

DESCRIPTORS- *BUILDING INNOVATION, *COLLEGE BUILDINGS, *DESIGN NEEDS, *FLEXIBLE FACILITIES, *HEALTH FACILITIES, BUILDING DESIGN, CLINICS, COLLEGE PLANNING, CONSTRUCTION COSTS, HEALTH NEEDS, HEALTH SERVICES, INTERIOR SPACE, STUDY FACILITIES

THIS REPORT CONSIDERS PROBLEMS AND SOLUTIONS RELATED TO THE DESIGN AND ESTABLISHMENT OF COLLEGE HEALTH FACILITIES. THIS INCLUDES THE RESULTS OF A STUDY INVOLVING COLORADO, KNOX, AND WITTENBERG COLLEGES IN WHICH PERSONAL VISITS AND EXPERT TESTIMONY CONCLUDED THAT THE HEALTH SERVICES OF SMALL COLLEGES IN THE CENTRAL AND WESTERN STATES WERE SERIOUSLY INADEQUATE. A PROTOTYPE SOLUTION WAS DEVELOPED BY THE ARCHITECTURAL FIRM, CAUDILL, ROWLETT, AND SCOTT OF HOUSTON, TO MEET THE NEEDS OF SMALL INDEPENDENT LIBERAL ARTS COLLEGES. SPECIFIC CONSIDERATIONS INCLUDED (1) INTERNAL EXPANSION AND FLEXIBILITY, (2) STUDY AND RECREATIONAL FACILITIES, AND (3) SUPERVISION AND SPACE RELATIONSHIPS. THIS SOLUTION CONSISTED OF A CIRCULAR BUILDING, WITH PATIENT ROOMS ON THE PERIMETER AND A RAISED CENTRAL NURSING STATION, WITH AUXILIARY WAITING AND TREATMENT ROOMS AND AN ATTACHED NURSES RESIDENCE. AN IMPORTANT FEATURE WAS THE PROVISION OF STUDY SPACE WHICH COULD BE REPLACED WITH EMERGENCY BEDS. THE PROTOTYPE IS INTENDED AS A LOW COST COMBINATION CLINIC AND INFIRMARY. SPECIFICATIONS, LAYOUTS, AND ELEVATIONS ARE GIVEN WITH THE SUPPORTING DESIGN ANALYSIS. THIS DOCUMENT IS AVAILABLE FROM THE EDUCATIONAL FACILITIES LABORATORIES, 477 MADISON AVENUE, NEW YORK 22, NEW YORK. (MM)

ERIC/CEF DOCUMENT NO. EF000072 ED 014 201 DISPOSITION-EDC- 1

DUAL USE OF SCHOOL FALLOUT SHELTER SPACE

STATE UNIVERSITY OF NEW YORK, ALBANY

PUBLISHED- 65

021 PAGES

DESCRIPTORS- *CONSTRUCTION COSTS, *DESIGN NEEDS, *SPACE UTILIZATION, *FALLOUT SHELTERS, *WINDOWLESS SPACE, BUILDING CONSTRUCTION, EQUIPMENT STORAGE, PHYSICAL ENVIRONMENT, SCHOOL DESIGN, SCHOOL IMPROVEMENT, SCHOOL LOCATION, SCHOOL SPACE, VENTILATION

A REPORT DISCUSSING CONSIDERATION IN THE USE OF FALLOUT SHELTER SPACE FOR NORMAL SCHOOL ACTIVITIES, INCLUDING THE REQUIREMENTS FOR FALLOUT SHELTERS AND PROBLEMS RELATED TO WINDOWLESS ROOMS. THE PRESENT LACK OF INFORMATION ABOUT PSYCHOLOGICAL PROBLEMS RELATED TO WINDOWLESS ROOMS IS MENTIONED. THE BEST USES FOR WINDOWLESS SPACE ARE NOTED--(1) CAFETERIAS, (2) LARGE-GROUP INSTRUCTION, (3) AUDIO-VISUAL, (4) HEALTH, (5) ADMINISTRATION, AND (6) SHOWER AND LOCKER ROOMS. THE PROS CONCLUSIONS INDICATE (1) BASIC CLASSIFICATIONS OF SCHOOLS AS TO THEIR SHELTER POTENTIAL, AND (2) IMPORTANT FACTORS TO BE CONSIDERED. ADDITIONAL INFORMATION INCLUDES (1) THE RELATIVE COSTS OF SINGLE USE AND DUAL USE FALLOUT SHELTERS IN SCHOOLS FROM AN ACTUAL CASE STUDY, (2) A LISTING OF SCHOOLS WITH DUAL USE OF FALLOUT SHELTER AREAS AND SCHOOLS WITH WINDOWLESS CLASSROOMS, AND (3) A LETTER DESCRIBING SCHOOL AID FOR FALLOUT SHELTER CONSTRUCTION. (MM)

ERIC/CEF DOCUMENT NO. EF000124 DISPOSITION-CERS 2

CRITICAL PATH METHODS IN CONSTRUCTION PRACTICE

BY- ANTILL, JAMES M. AND WOODHEAD, RONALD W.

PUBLISHED- 65

290 PAGES

DESCRIPTORS- *CONSTRUCTION COSTS, *PLANNING, *SCHOOL CONSTRUCTION, *SYSTEMS ANALYSIS, *SYSTEMS APPROACH, SCHOOL PLANNING

THE CRITICAL PATH METHOD IS APPLIED AS A TOOL FOR THE PLANNING AND MANAGEMENT OF DIFFERENT TYPES OF CONSTRUCTION PROJECTS. THIS METHOD CONSISTS OF A SCHEMATIC DIAGRAM OR MODEL THAT DEPICTS THE SEQUENCE AND INTERRELATION OF THE COMPONENT PARTS OF A PROJECT. A PLANNING APPROACH OF THIS TYPE PERMITS CONTINUAL EVALUATION AND COMPARISON OF ALTERNATIVE WORK PROGRAMS, CONSTRUCTION METHODS, AND TYPES OF EQUIPMENT THAT MAY BE USED. ONCE A PLAN HAS BEEN DEVISED AND CONSTRUCTION HAS STARTED, THE MODEL CAN PROVIDE INFORMATION ON THE EFFECTS OF CONSTRUCTION VARIATION OR DELAY AND PERMIT IDENTIFICATION OF CONSTRUCTION OPERATIONS REQUIRING ADJUSTMENTS. CRITERIA TO BE PUT INTO THE MODEL INCLUDES TIME-COST FACTORS, SCHEDULING, FLOAT TIMES AND PROJECT, RESOURCE AND COST CONTROLS. (GM)

ERIC/CEF DOCUMENT NO. EF000171 DISPOSITION-CERS 1

AIR STRUCTURES FOR SCHOOL SPORTS

BY- ROBERTSON, NAN
EDUCATIONAL FACILITIES LABORATORIES, INC., NEW YORK, N. Y.

PUBLISHED- 64

28 PAGES

DESCRIPTORS- *AIR STRUCTURES, *PHYSICAL EDUCATION FACILITIES, *PREFABRICATION, ATHLETIC ACTIVITIES, CONSTRUCTION COSTS, COSTS, MAINTENANCE, SAFETY, SCHOOL CONSTRUCTION, SCHOOL MAINTENANCE, SCHOOL SAFETY

AIR STRUCTURES ARE FABRIC BUILDINGS BLOWN UP AND HELD UP BY AIR PRESSURE. EXPERIMENTS WITH SUCH STRUCTURES WERE CONDUCTED AS EARLY AS 1917. IN 1948 THE UNITED STATES AIR FORCE SOUGHT A NEW WAY OF HOUSING LARGE RADAR ANTENNAE PLANNED FOR THE ARCTIC. AS AN OUTCOME OF THEIR SEARCH, BIRDAIR STRUCTURES, INC., WHICH IS NOW ONE OF SEVERAL COMPANIES SELLING SUCH STRUCTURES, WAS FOUNDED. EARLY EXPERIENCES WITH AIR STRUCTURES FOR SCHOOLS IN LITCHFIELD, CONNECTICUT, WERE DISAPPOINTING. THE SUBSEQUENT ERECTION OF TWO MORE BUBBLES WAS EVIDENCE THAT SATISFACTION WAS EVENTUALLY ACHIEVED. COST ESTIMATES OF $2.14 PER SQUARE FOOT COMPARE FAVORABLE WITH WOOD-DOMED FIELDHOUSES AT $6.53 PER SQUARE FOOT OR GEODESIC FIELDHOUSES AT $8.34 PER SQUARE FOOT. COSTS FOR SWIMMING POOL USE ARE ESTIMATED AT $9.38 PER SQUARE FOOT AS COMPARED TO $26.00 AND $32.00. EASE OF HEATING IS ALSO EMPHASIZED. INSTALLATION TIME IS APPROXIMATELY ONE DAY. THERE IS NO DANGER OF SUFFOCATION IN CASE OF DEFLATION BECAUSE THE PROCESS IS SLOW AND THE MATERIAL CAN EASILY BE LIFTED SHOULD ONE FIND IT NECESSARY TO GET OUT UNDER SUCH CONDITIONS. THERE IS NO FIRE DANGER. BECAUSE OF A HIGH REFLECTION SURFACE, LIGHTING PROBLEMS ARE MINIMAL. CURRENT EXPERIMENTS ARE BEING CARRIED OUT TO MAKE IMPROVEMENTS. INTERESTED READERS MAY SEE SUGGESTED DO'S AND DON'TS BY REFERRING TO THIS BOOKLET. ADVANTAGES OF AIR STRUCTURES ARE COST, HEATING EASE, LIGHTING EASE, UNOBSTRUCTED AREA, PORTABILITY, MAINTENANCE, AND DEPENDABILITY. THE MAIN DISADVANTAGE IS THE LIMITED LIFE EXPECTANCY. THIS DOCUMENT IS AVAILABLE FROM EDUCATIONAL FACILITIES LABORATORIES, INC., 477 MADISON AVENUE, NEW YORK, N.Y. 10022. (RH)

ERIC/CEF DOCUMENT NO. EF000176 DISPOSITION-CERS 2

BRITISH PREFABRICATED SCHOOL CONSTRUCTION

STANFORD UNIVERSITY, CALIFORNIA, SCHOOL PLANNING LABORATORY

IN- SCHOOL CONSTRUCTION SYSTEMS DEVELOPMENT, REPORT NUMBER 2

DESCRIPTORS- *COMPONENT BUILDING SYSTEMS, *PREFABRICATION, BUILDING DESIGN, CONSTRUCTION COSTS

THE SCHOOL BUILDING NEEDS OF GREAT BRITAIN HAVE PASSED THROUGH A CRITICAL ERA IN THE PAST TWO DECADES. BOMB DAMAGE TO SCHOOL PLANTS DURING WORLD WAR II WAS GREAT, FOLLOWED BY A GREAT POST WAR INCREASE IN THE BIRTH RATE, POPULATION SHIFTS, A RAISE IN COMPULSORY SCHOOL ATTENDANCE AGE, AND A SHORTAGE OF BUILDING MATERIALS AND LABOR FOR SCHOOL CONSTRUCTION. ADDITIONALLY, NATIONAL MONETARY POLICY REVISION DECREASED THE AMOUNT OF PER PUPIL BUILDING COST PERMITTED BY THE GOVERNMENT. AS A RESULT, PREFABRICATION OF SCHOOL BUILDINGS HAS BECOMEA MOST COMMON PRACTICE IN BRITAIN. SEVERAL COMPONENT BUILDING SYSTEMS HAVE BEEN DESIGNED AND DEVELOPED THROUGH JOINT EFFORT OF GOVERNMENTAL, ARCHITECTURAL, MANUFACTURING AND CONSTRUCTION INDUSTRIES. THE COMPONENT SYSTEMS HAVE ACHIEVED MONETARY SAVINGS THROUGH MASS PRODUCTION TECHNIQUES, AND THROUGH CONTINUING FUNDING OF COMPONENT RESEARCH. BUILDING FLEXIBILITY HAS BEEN WORKED INTO THE PREFABRICATED STRUCTURES. BRITISH PRACTICES HAVE FOSTERED BUILDING COMPONENT PRICES TO BE FIXED BY COMPETITIVE ANNUAL BIDS FOR MASS CONSTRUCTION WITH RENEWAL OPTIONS. SUCH PRACTICE HAS CAUSED OPTIONAL BUILDING DESIGN, AND LOWER CONSTRUCTION PRICES AS THE MANUFACTURER AND CONTRACTOR PROFIT FROM STABLE LONG TERM COMMITMENTS. THIS EFL PUBLICATION CONTENDS THAT THE BRITISH PREFABRICATED SCHOOLS HAVE REALIZED MORE TEACHING AREA PER DOLLAR EXPENDITURE, AND THAT THE QUALITY OF BUILDING FINISH IS BETTER THAN THE AVERAGE IN NONPREFABRICATED SCHOOLBUILDINGS. TO OBTAIN COPIES WRITE, SCHOOL PLANNING LABORATORY, SCHOOL OF EDUCATION, STANFORD UNIVERSITY, STANFORD, CALIFORNIA 94305. (GM)

ERIC/CEF DOCUMENT NO. EF000251 ED 017 119 DISPOSITION-UFRC 1

HIGH RISE OR LOW RISE (A STUDY OF DECISION FACTORS IN RESIDENCE HALLS PLANNING)

UNIVERSITY FACILITIES RESEARCH CENTER, MADISON, WISCONSIN

PUBLISHED- 64

055 PAGES

DESCRIPTORS- *CAMPUS PLANNING, *COLLEGE HOUSING, *CONSTRUCTION NEEDS, *DESIGN, *DORMITORIES, BUILDINGS, BUILDING DESIGN, CONSTRUCTION COSTS, FACILITY GUIDELINES, HOUSING, SPACE UTILIZATION

THE PURPOSE OF THIS REPORT IS TO SERVE COLLEGE OFFICIALS, HOUSING ADMINISTRATORS, PLANNING GROUPS AND ARCHITECTS BY FOCUSING ON THE DECISION FACTORS WHICH RELATE TO HIGH-RISE AND LOS-RISE STUDENT HOUSING. DECISION FACTORS INCLUDE--(1) LAND USE IMPLICATIONS, (2) SITE REQUIREMENTS--BUILDING CODES, SUB-SOIL CONSIDERATIONS, NATURAL TERRAIN, ACCESSIBILITY, OUTDOOR AREAS, CAMPUS PLAN, GROWTH PATTERN, (3) COST IMPLICATIONS, (4) CPPORTUNITIES FOR CUMULATIVE SAVINGS, (5) TECHNICAL CONSIDERATIONS--BUILDING MATERIALS, SUCH MECHANICAL SERVICES AS PLUMBING, ELECTRICITY, (6) TRAFFIC REQUIREMENTS, (7) COMMON FACILITIES AND SERVICES, (8) OPERATIONAL FACTORS--MANAGERIAL SUPERVISION, HOUSEKEEPING, MAINTENANCE AND REPAIR, (9) SIZE AND INSTITUTIONAL BIGNESS, AND (10) SOCIOLOGICAL IMPLICATIONS. APPENDICES DISCUSS--(1) COMPARATIVE EVALUATION OF HIGH-RISE VS. LOW-RISE DESIGN, (2) HEIGHT OF HIGH-RISE, (3) PROGRAM STATEMENT FOR ST. OLAF COLLEGE, AND (4) CHECKLIST FOR RESIDENCE HALL PLANNING. (HH)

ERIC/CEF DOCUMENT NO. EF000402 ED 015 616 DISPOSITION-EDC- 1

STRUCTURAL CONSIDERATIONS IN SCHOOL BUILDING ECONOMY

CONNECTICUT STATE DEPARTMENT OF EDUCATION, HARTFORD

PUBLISHED-JUN63
IN- SCHOOL BUILDING ECONOMY SERIES NO. 5

033 PAGES

DESCRIPTORS- *ARCHITECTURAL ELEMENTS, *CONSTRUCTION COSTS, *CONSTRUCTION NEEDS, *SCHOOL CONSTRUCTION, *STRUCTURAL SYSTEMS, BUILDING DESIGN, BUILDING EQUIPMENT, PREFABRICATION, SCHOOL ARCHITECTURE, SCHOOL BUILDINGS

ALL SCHOOL BUILDINGS ARE BASICALLY SHELTER STRUCTURES. THEIR ELEMENTARY COMPONENTS ARE (1) STRUCTURAL MEMBERS, (2) WEATHER PROTECTION ELEMENTS, (3) MECHANICAL INSTALLATIONS, (4) FINISHING ELEMENTS, AND (5) BUILT-IN EQUIPMENT. THE CHOICE OF BUILDING SYSTEMS IS DEPENDENT ON (1) SUBSOIL CONDITIONS, (2) SITE CONTOURS, AND (3) CLIMATIC CONDITIONS. SEVERAL STRUCTURAL SYSTEMS ARE ANALYZED IN TERMS OF THESE CRITERIA. WEATHER PROTECTION ELEMENTS SUCH AS (1) ROOFING, (2) FLASHING, (3) SIDING, (4) WATERPROOFING, (5) INSULATION, (6) OVERHANGS AND SUNSHADES, (7) CIRCULATION CHARACTERISTICS, (8) AIR AND LIGHT PASSAGE, (9) ACOUSTICAL CORRECTION, AND (10) AESTHETIC IMPROVEMENT ARE DISCUSSED IN TERMS OF SCHOOL CONSTRUCTION. THE ASPECTS OF FIRE-RESISTIVITY MENTIONED ARE (1) SAFETY, (2) BUILDING RATING, AND (3) LOCAL ORDINANCES. MISCELLANEOUS ARCHITECTURAL CONSIDERATIONS ARE LISTED ALONG WITH RECOMMENDATIONS FOR THE ADOPTION OF A MODULAR SYSTEM OF DIMENSIONS. (MH)

ERIC/CEF DOCUMENT NO. EF000411 ED 014 850 DISPOSITION-EDC- 1

ENVIRONMENT FOR LEARNING (A RESEARCH STUDY IN SECONDARY SCHOOL DESIGN)

GOLEMON AND ROLFE, ARCHITECTS ENGINEERS HOUSTON, TEXAS

PUBLISHED-FEB60
IN- FORM NO. AC 489

023 PAGES

DESCRIPTORS- *BUILDING DESIGN, *CONTROLLED ENVIRONMENT, *FLEXIBLE FACILITIES, *SPACE RELATIONSHIPS, *WINDOWLESS SPACE, BUILDING INNOVATION, BUILDING OPERATION, COMPARATIVE ANALYSIS, CONSTRUCTION COSTS, DESIGN NEEDS, SECONDARY SCHOOLS

A STUDY OF THE SCHOOL ENVIRONMENT AND THE PREPARATION OF A MODEL DESIGN SOLUTION HAS BEEN CONDUCTED BY AN ARCHITECTURAL FIRM. THE SOLUTION USED DATA FROM AN EXISTING COMPARISON SCHOOL IN THE REDESIGN OF THE EDUCATIONAL FACILITY BASED ON THE INDEPENDENT CONTROL OF THE INTERNAL ENVIRONMENT AND THE ELIMINATION OF CLASSROOM WINDOWS. THIS APPROACH ALLOWED THE REDISTRIBUTION OF SPACE AND FACILITIES WITHIN THE BUILDING PROVIDING A GREATER FLEXIBILITY AND ECONOMIES IN COST, SPACE, AND TRAVEL TIME, AS WELL AS A MORE EFFECTIVE ENVIRONMENTAL CONTROL. THE MODEL SOLUTION HAS COMPARED WITH THE EXISTING SCHOOL IN TERMS OF (1) SITE USE, (2) FLOOR PLAN, (3) CONSTRUCTION COSTS, AND (4) OPERATING COSTS. THE SOLUTION ALSO INCLUDES SPECIFIC CONSIDERATIONS OF (1) ENTRANCES, (2) CORRIDORS, (3) FLEXIBLE CLASSROOMS, AND (4) ENGINEERING FACTORS. (DM)

ERIC/CEF DOCUMENT NO. EF000421 ED 014 854 DISPOSITION-EDC- 1

THE DEVELOPMENT OF THE TEACHING SPACE DIVIDER

BY- CAUDILL, WILLIAM W. AND BELLOMY, CLEON C.
CAUDILL, ROWLETT, SCOTT, AND ASSOCIATES ARCHITECTS-ENGINEERS
BRYAN, TEXAS

IN- RESEARCH REPORT, 1

006 PAGES

DESCRIPTORS- *MOVABLE PARTITIONS, *PREFABRICATION, *SPACE DIVIDERS, *TEACHING METHODS, *VERTICAL WORK SURFACES, CHALKBOARDS, CONSTRUCTION COSTS, DISPLAY PANELS, TACKBOARDS

TYPES OF VERTICAL WORK SURFACES AND THE DEVELOPMENT OF A MODEL TEACHING SPACE DIVIDER ARE DISCUSSED IN THIS REPORT. THIS DESIGN IS BASED ON THE EXPRESSED NEED FOR MORE TACKBOARD AND SHELVING SPACE, AND FOR MOVABLE PARTITIONS. THE MODEL PANELS WHICH SERVE DIRECTLY AS PARTITIONS RATHER THAN BEING OVERLAID ON A PLASTERED SURFACE, INCLUDE THE FOLLOWING FUNCTIONS--(1) SERVING AS UNITS TO DIVIDE SPACE, (2) SERVING AS VERTICAL WORK SURFACES, AND (3) FACILITATING EASY INTERIOR CHANGES. FOUR TYPES OF SURFACE, PREFABRICATED ON A FOUR BY EIGHT FOOT MODULE, INCLUDE --(1) CHALKBOARD PANELS, PROVIDING A LARGE-SCALE WRITING AND DRAWING SURFACE, (2) DOWEL PANELS, PROVIDING SHELF AND EASEL SPACE, (3) TACKBOARDS, PROVIDING A FULL WALL AREA DISPLAY SPACE, AND (4) PERFORATED PANELS, PROVIDING AN ACOUSTIC AND VERSATILE HANGING SURFACE. PANELS ARE MOUNTED DIRECTLY ON STUDS AND MAY BE DEMOUNTED AND INTERCHANGED AS NEEDED. THIS SOLUTION IS ECONOMICAL AND SAVES OFTEN WASTED WALL SPACE. (DM)

ERIC/CEF DOCUMENT NO. EF000422 ED 017 121 DISPOSITION-EDC- 1

THE COMPUTER AND THE ARCHITECTURAL PROFESSION

BY- HAVILAND, DAVID S.
RENSSELAER POLYTECHNIC INSTITUTE, TROY, NEW YORK, SCHOOL OF ARCHITECTURAL RESEARCH, CENTER FOR ARCHITECTURAL RESEARCH

055 PAGES

DESCRIPTORS- *ARCHITECTURAL EDUCATION, *BUILDING DESIGN, *COMPUTERS, *GRAPHIC ARTS, *INFORMATION PROCESSING, CITY PLANNING, COMMUNICATIONS, CONSTRUCTION COSTS, ENGINEERING, OFFICE MANAGEMENT, PROGRAMING, SCHOOL SITE, TECHNOLOGY

THE ROLE OF ADVANCING TECHNOLOGY IN THE FIELD OF ARCHITECTURE IS DISCUSSED IN THIS REPORT. PROBLEMS IN COMMUNICATION AND THE DESIGN PROCESS ARE IDENTIFIED. ADVANTAGES AND DISADVANTAGES OF COMPUTERS ARE MENTIONED IN RELATION TO MAN AND MACHINE INTERACTION. PRESENT AND FUTURE IMPLICATIONS OF COMPUTER USAGE ARE IDENTIFIED AND DISCUSSED WITH RESPECT TO--(1) PROGRAMING, (2) SITE ANALYSIS, (3) BUILDING DESIGN, (4) CIVIL AND STRUCTURAL DESIGN, (5) ENVIRONMENT AND EQUIPMENT, (6) CITY AND REGIONAL PLANNING, AND (7) OFFICE AND JOB MANAGEMENT. DEMANDS ON COMPUTER TECHNOLOGY AND THE ARCHITECTURAL PROFESSION ARE INDICATED. A TECHNICAL SUPPLEMENT ON COMPUTER TECHNOLOGY IS INCLUDED ON--(1) COMPUTER PROGRAMING, (2) HARDWARE, (3) THE COMPUTER, (4) NON-COMPUTER METHODS, AND (5) A GLOSSARY OF TERMS RELATED TO COMPUTER TECHNOLOGY. (MM)

ERIC/CEF DOCUMENT NO. EF000423 ED 014 855 DISPOSITION-EDC- 1

SPATIAL APPROACH TO PLANNING THE PHYSICAL ENVIRONMENT

BY- CAUDILL, WILLIAM W. AND BELLOMY, CLEON C.
CAUDILL, ROWLETT, SCOTT, AND ASSOCIATES ARCHITECTS-ENGINEERS
BRYAN, TEXAS

PUBLISHED- 55
IN- RESEARCH REPORT, 2

006 PAGES

DESCRIPTORS- *BUILDING INNOVATION, *CONTROLLED ENVIRONMENT, *PHYSICAL ENVIRONMENT, *SCHOOL DESIGN, *SPACE RELATIONSHIPS, ACOUSTICS, CONSTRUCTION COSTS, ENVIRONMENTAL INFLUENCES, HEATING, LIGHTING, PLANNING, TECHNOLOGICAL ADVANCEMENT, VENTILATION

THE PURPOSE OF THIS REPORT DEFINES THE SPATIAL APPROACH TO PLANNING THE PHYSICAL ENVIRONMENT AND SUGGESTS A MORE NATURAL APPROACH TO A LESS RESTRICTED ARCHITECTURE. ONE OF THE TWO BASIC ARCHITECTURAL ELEMENTS IN THE SPATIAL CONCEPT IS THE HORIZONTAL SCREEN WHICH KEEPS THE SUN AND RAIN OFF, LETS IN LIGHT, KEEPS OUT SUN HEAT, RETAINS ROOM HEAT, AND FRAMES DESIRABLE VIEWS WHILE TAKING ON ANY SHAPE OR POSITION. THE OTHER ELEMENT, THE VERTICAL SCREEN, ACTS AS A WIND BREAK, A SOUND SOURCE, THERMAL SCREEN AND VIEW SCREEN. ARCHITECTS WORK WITH THE FOLLOWING FOUR BASIC SCREEN TYPES--(1) THE TRANSPARENT SCREEN WHICH CAN SERVE AS A WIND BREAK, SOUND BARRIER, THERMAL SCREEN AND AT THE SAME TIME PERMIT A VIEW, (2) THE TRANSLUCENT SCREEN WHICH PROVIDES THE SAME EFFECTS, PERMITS LIGHT BUT ELIMINATES A VIEW, (3) THE SOLID OR OPAQUE SCREEN WHICH PROVIDES ALL THESE FUNCTIONS EXCEPT THAT IT ELIMINATES BOTH LIGHT AND VIEW, AND (4) THE PIERCED SCREEN WHICH CAN HAVE THE QUALITIES OF OPAQUENESS, TRANSLUCENCY, AND TRANSPARENCY WITH THE ADDED QUALITY OF ALLOWING AIR FLOW. THE SPATIAL APPROACH GIVES THE ARCHITECT THE FREEDOM TO BALANCE THE CONSTRUCTION BUDGET, GIVES THE EDUCATOR THE OPPORTUNITY TO PROVIDE STUDENTS COMFORTABLE AND HIGHLY FUNCTIONAL SPACES FOR LEARNING, AND LEADS TO A NEW TYPE OF UNRESTRICTED ARCHITECTURE THAT IS AS TECHNOLOGICALLY PROGRESSIVE AND INDEPENDENT AS THE CIVILIZATION WHICH IS PRODUCING IT. IN ESSENCE, THE ARCHITECT STARTS WITH ALL NATURE, KEEPING EVERYTHING DESIRABLE--SPACIOUSNESS, VIEW, NATURAL LIGHT, COMFORTING BREEZES--AND ELIMINATES ONLY THE UNDESIRABLE. (RK)

ERIC/CEF DOCUMENT NO. EF000424 ED 014 856 DISPOSITION-EDC- 1

TOWARDS AN ECONOMICAL FLEXIBILITY

BY- RICHARDSON, L. S. AND CAUDILL, WILLIAM W.
CAUDILL, ROWLETT, SCOTT AND ASSOCIATES ARCHITECTS-ENGINEERS
BRYAN, TEXAS

IN- RESEARCH REPORT, 3

010 PAGES

DESCRIPTORS- *AUDITORIUMS, *CONSTRUCTION COSTS, *FLEXIBLE FACILITIES, *SCHOOL EXPANSION, *SPACE DIVIDERS, BUILDING DESIGN, CLASSROOM DESIGN, SCHOOL PLANNING

AN ARCHITECT AND A SUPERINTENDENT OF SCHOOLS COLLABORATED ON THE DESIGN FOR A HIGH SCHOOL, WHICH STRESSED ECONOMY AND FLEXIBILITY. THEY CONSIDERED THREE ASPECTS OF FLEXIBILITY--(1) EXPANDABILITY, (2) CONVERTIBILITY, AND (3) VERSATILITY. EXPANDABILITY IS DISCUSSED IN TERMS OF SITE SELECTION AND PLANNING. CONVERTIBILITY FEATURES IDENTIFIED INCLUDE MOVABLE SPACE DIVIDERS, EITHER STORAGE UNITS OR TEACHING PANELS, WHICH COULD BE REARRANGED FOR DIFFERENT INSTRUCTION LAYOUTS. VERSATILITY IS INCLUDED IN THE AUDITORIUM DESIGN WHICH INCORPORATES THE BAND ROOM AND ASSEMBLY ROOM, AND USING FOLDING PARTITIONS, PERMITS A NUMBER OF STAGE AND SEATING CONFIGURATIONS. THE AUDITORIUM ALSO FEATURES A CIRCULAR DOMED CONSTRUCTION WHICH HAS ACCUSTIC, ECONOMIC, AND STRUCTURAL ADVANTAGES. SPECIFIC ATTENTION IS GIVEN TO (1) STORAGE LIGHTING, (2) AUDITORIUM SEATING, (3) DOORLESS CLASSROOMS, AND (4) UTILITIES FLEXIBILITY. (DM)

ERIC/CEF DOCUMENT NO. EF000426 DISPOSITION-EDC- 1

RELATIONSHIP OF COST TO THE GEOMETRY OF A BUILDING

BY- ROWLETT, JOHN M. AND BULLOCK, THOMAS A.
CAUDILL, ROWLETT, SCOTT AND ASSOCIATES ARCHITECTS-ENGINEERS
BRYAN, TEXAS

IN- , RESEARCH REPORT, 5

006 PAGES

DESCRIPTORS- *BUILDING DESIGN, *CONSTRUCTION COSTS, *SCHOOL DESIGN, ARCHITECTURE, BUILDINGS, DESIGN, SCHOOL BUILDINGS, SCHOOL CONSTRUCTION

A SIMPLE BUILDING WITH A MINIMUM NUMBER OF INSIDE AND OUTSIDE CORNERS GIVES THE MAXIMUM AMOUNT OF QUALITY TEACHING SPACE FOR EACH BUILDING DOLLAR. THIS CONCLUSION IS BASED ON ONE ARCHITECTURAL FIRM'S COMPARISON OF TWO SIMILAR SCHOOLS, ONE OF WHICH HAD A MORE COMPLEX PLAN. A COMPARISON OF COSTS, AREAS PERIMETERS, VOLUMES, NUMBER OF CORNERS, AND NUMBER OF ROOFS IS GIVEN. (JT)

ERIC/CEF DOCUMENT NO. EF000430 ED 014 859 DISPOSITION-EDC- 1

BARRIERS AND BREAKTHROUGHS

BY- CAUDILL, WILLIAM W. AND BULLOCK, THOMAS A.
CAUDILL, ROWLETT, SCOTT AND ASSOCIATES ARCHITECTS-ENGINEERS
BRYAN, TEXAS

IN- RESEARCH REPORT, 9

009 PAGES

DESCRIPTORS- *BUILDING DESIGN, *PHYSICAL FACILITIES, *SCHOOL DESIGN, CLASSROOM FURNITURE, CONSTRUCTION COSTS, EDUCATIONAL EQUIPMENT, LIGHTING, PREFABRICATION, SCHOOL ARCHITECTURE, SCHOOL SIZE

THERE ARE MANY BARRIERS TO MORE EFFECTIVE SCHOOL ARCHITECTURE SUCH AS (1) ARCHITECTURAL AND EDUCATIONAL PREJUDICE, (2) OBSOLETE CODES, (3) BUILDING COMPLEXITY, AND (4) STATIC THINKING. HOWEVER, THERE HAVE BEEN MANY DEVELOPMENTS IN (1) GROUP PLANNING, (2) LEARNING WALLS AND SPACE DIVIDERS, (3) STUDENT CENTERS, (4) LANDSCAPING, AND (5) HUMANISTIC ARCHITECTURE WHICH TEND TO OFFSET THESE BARRIERS. (JT)

ERIC/CEF DOCUMENT NO. EF000440 DISPOSITION-EDC- 1

THE SPACE STAGE, FAD OR FUTURE

BY- DE CHAINE, FABER

PUBLISHED-MAY66
IN- AMERICAN SCHOOL BOARD JOURNAL, MAY 1966

7 PAGES

DESCRIPTORS- *AUDITORIUMS, *EQUIPMENT, *FLEXIBLE FACILITIES, *THEATERS, AUDIOVISUAL INSTRUCTION, CONSTRUCTION COSTS, MUSIC ACTIVITIES, THEATER ARTS

DISSATISFACTION WITH THE PROSCENIUM ARCH THEATRE, THE NEED FOR ECONOMY IN PUBLICLY-FINANCED STRUCTURES, AND THE ADVANTAGES OF INTIMATE THEATRE, HAVE LED TO THE DEVELOPMENT OF THE SPACE STAGE, WHICH PROJECTS INTO THE AUDITORIUM AND IS SURROUNDED ON THREE SIDES BY SEATING. THE SPACE STAGE CONCEPT IS USED IN THIS EXAMPLE TO PROVIDE A PERFORMING ARTS FACILITY IN CONJUNCTION WITH A NEW CAMPUS HIGH SCHOOL. THE SOLUTION CONTAINS A 400 SEAT THEATER WITH TWO 200-SEAT AUDITORIUMS SEPARATED BY MOVABLE PANELS, DESIGNED SO THAT CLASSES COULD BE HELD IN THE TWO SMALLER AUDITORIUMS. DESIGN OF THE SEATING INCLUDES CONSIDERATION OF--(1) AISLE AND SEATING ORIENTATION, (2) CONTROL OF STAGE LIGHTING, (3) VISUAL ANGLES, AND (4) ACOUSTICS. THE TREATMENT OF THE STAGE CONSIDERS--(1) ABSORBANCE, (2) REFLECTION, (3) FLEXIBILITY, AND (4) SPEAKER PLACEMENT. TECHNICAL FACILITIES INCLUDE--(1) A SIDE TRACK SYSTEM FOR SCENERY, (2) ROLLING TOWERS FOR STAGE WORK, AND (3) A WALL SHOP. GRAPHICS INCLUDE PHOTOGRAPHS OF THE THEATRE AND BACKSTAGE AREA, AND DIAGRAMS OF THE PLAN AND ELEVATION. THIS ARTICLE APPEARED IN THE MAY, 1966, ISSUE OF THE AMERICAN SCHOOL BOARD JOURNAL. COPIES MAY BE OBTAINED BY WRITING THE EDITOR, AMERICAN SCHOOL BOARD JOURNAL, BRUCE PUBLISHING CO., 400 N. BROADWAY, MILWAUKEE, WISCONSIN. (MM)

ERIC/CEF DOCUMENT NO. EF000453 DISPOSITION-CERS 2

STEPS TOWARD GOOD FOOD SERVICE

BY- SUDDARTH, RAY

PUBLISHED-MAY66
IN- AMERICAN SCHOOL AND UNIVERSITY, MAY 66

006 PAGES

DESCRIPTORS- *COSTS, *DINING FACILITIES, *EQUIPMENT, *EQUIPMENT UTILIZATION, *FOOD, VENDING MACHINES

THIS REPORT DISCUSSES THE EFFICIENCY OF FOOD SERVICE ACHIEVED THROUGH MECHANIZATION AND IMPROVED HANDLING TECHNIQUES. KITCHENS SHOULD BE PLANNED IN TERMS OF THE NUMBER OF CHILDREN TO BE FED NOW AND IN THE FUTURE. SCHOOL KITCHENS CAN PROVIDE MEALS AT LOWER COSTS TO THE PUPIL THAN MOST VENDING MACHINES. FOOD SERVICE OPERATING COSTS CAN BECOME EXCESSIVE THROUGH OVER-STAFFING, POOR RECORD KEEPING, POOR BUYING PRACTICES AND LACK OF SKILLED LABOR, HAPHAZARD MENU PLANNING, INADEQUATE USE OF EQUIPMENT AND IMPROPER INVENTORY PLANNING. THE USE OF ELECTRIC CUTTERS, MIXERS, CONVECTION OVENS AND OTHER MECHANICAL DEVICES REDUCE COSTS. TIMING, LOCAL BUYING, AND STOCKPILING GOVERNMENT DONATED COMMODITIES ALSO AFFECT COSTS.

ERIC/CEF DOCUMENT NO. EF000457 DISPOSITION-UFRC 2

S.I.U. SUPER COMPLEX FOR THE COMMUNICATIONS ARTS

PUBLISHED-MAY66
IN- AMERICAN SCHOOL AND UNIVERSITY, MAY, 66, PP. 104-5

002 PAGES

DESCRIPTORS- *COLLEGE BUILDINGS, *BUILDING DESIGN, *EDUCATIONAL COMPLEXES, *HIGHER EDUCATION, *CONSTRUCTION COSTS, AIR CONDITIONING, AUDITORIUMS, CIVIL DEFENSE, PARKING FACILITIES

THIS ARTICLE REPORTS THE PLAN AT SOUTHERN ILLINOIS UNIVERSITY FOR A COMPLEX CONTAINING FIVE COMMUNICATION SCHOOLS--SPEECH AND SPEECH CORRECTION, THEATER, RADIO AND TELEVISION, PRINTING AND PHOTOGRAPHY, AND JOURNALISM FEATURING A 5,000 SEAT AUDITORIUM, CIVIL DEFENSE HEADQUARTERS, AND A MULTI-UNIT CENTRAL, CHILL WATER SUPPLY SYSTEM FOR AIR CONDITIONING. BASED UPON THE RESULTS OF IDEAL USE REQUESTS FROM FACULTY AND COMPARATIVE ON-SITE DATA FROM OTHER CAMPUSES, THE 700,000 SQUARE FOOT COMPLEX WILL BE CONSTRUCTED IN THREE STAGES, THE FIRST OF WHICH HAS BEEN COMPLETED. TOTAL COST IS ABOUT $20 MILLION. A FLOOR PLAN AND PHOTOGRAPH ACCOMPANY THE ARTICLE. THIS COCUMENT APPEARED IN THE AMERICAN SCHOOL AND UNIVERSITY MAGAZINE, NEW YORK, NEW YORK. (JP)

ERIC/CEF DOCUMENT NO. EF000472 DISPOSITION-EDC- 2

CONSTRUCTING SCHOOL BUILDINGS WITH MATERIALS THAT WILL MINIMIZE FUTURE MAINTENANCE

BY- ECKERT, A. W.

PUBLISHED-OCT53
IN- PROCEEDINGS, THE ASSOCIATION OF SCHOOL BUSINESS OFFICIALS OF THE UNITED STATES AND CANADA, OCT. 53

004 PAGES

DESCRIPTORS- *BUILDING MATERIALS, *CONSTRUCTION COSTS, *ECONOMICS, *MAINTENANCE, *SCHOOL BUILDINGS, FLOORING, GLASS WALLS, LIGHTING

MAINTENANCE PROBLEMS ARE DISCUSSED IN TERMS OF SCHOOL BUILDING CONSTRUCTION AND ECONOMICS. BUILDING MATERIALS AND INHERENT PROBLEMS EXPANDED ON ARE--(1) FLOORS, (2) WALLS, (3) ROOF OVERHANG, (4) DOORS, (5) WINDOWS, (6) LIGHT FIXTURES, AND (7) MECHANICAL SYSTEMS. QUALIFIED CUSTODIAL PERSONNEL IS THE KEY TO KEEPING A SCHOOL PLANT OPERATING SMOOTHLY. (RK)

ERIC/CEF DOCUMENT NO. EF000482 DISPOSITION-CERS 2

CUTTING COSTS WITH CARPET

AMERICAN CARPET INSTITUTE, NEW YORK, N. Y.

PUBLISHED- 63

022 PAGES

DESCRIPTORS- *CARPET, *MAINTENANCE, *SCHOOL MAINTENANCE, CONSTRUCTION COSTS, COSTS

AN ANALYSIS OF INSTALLATION AND MAINTENANCE COSTS OF CARPET, TILE, AND TERRAZZO IN A WIDE VARIETY OF COMMERCIAL INSTALLATIONS IS PRESENTED. OVER 400,000 SQUARE FEET OF CARPETED FLOORS WERE EXAMINED AND EVALUATED AS WELL AS OVER 1,000,000 SQUARE FEET OF VARIOUS KINDS OF NON-CARPETED FLOORS. THIS STUDY GIVES PROSPECTIVE COMMERCIAL FLOOR COVERING BUYERS COMPLETE AND OBJECTIVE COMPARATIVE 'USE COST' DATA. 'USE COST' IS DETERMINED BY THREE IMPORTANT POINTS OF EVALUATION WHICH ARE COVERED IN THIS BOOKLET THROUGH THE USE OF CHARTS. AMORTIZED INSTALLATION COSTS OF CARPET ARE ON THE AVERAGE HIGHER THAN ON NON-CARPETED FLOORS. MAINTENANCE COSTS, HOWEVER, ARE MUCH LOWER ON CARPETED FLOORS. TOTAL 'USE COSTS' VARY FROM 40.8 PER CENT TO 47.6 PER CENT LESS THAN FOR NON-CARPETED FLOORS. A TWENTY YEAR COST PICTURE OF CARPET VERSUS VINYL ASBESTOS TILE SHOWS A SAVINGS OF $2,769.60 IN 1,000 SQUARE FEET. A DAILY RATE OF 9.3 MINUTES OF MAINTENANCE MANPOWER PER THOUSAND FEET FOR CARPETING COMPARES FAVORABLY TO 30.4 MINUTES FOR VINYL ASBESTOS TILE, 28.1 MINUTES FOR VINYL, 34.4 MINUTES FOR ASPHALT, AND 27.0 MINUTES FOR TERRAZZO.

ERIC/CEF DOCUMENT NO. EF000487 DISPOSITION-CERS 2

ECONOMICS OF PURCHASING

BY- KASTMAN, A. R.

PUBLISHED-MAY65
IN- AMERICAN SCHOOL AND UNIVERSITY, MAY 65, PP. 109-110

C04 PAGES

DESCRIPTORS- *COSTS, *EQUIPMENT, *FINANCIAL PROBLEMS, *CLASSROOM MATERIALS, DUCATIONAL EQUIPMENT, INSTRUCTIONAL MATERIALS

THIS REPORT INCLUDES A DISCUSSION OF THE CAUSES OF DISCREPANCIES IN PRICING AND BIDDING OF SCHOOL MATERIALS. VARIATION IN PRICES ON THE SAME TYPE OF ITEM MAY BE CAUSED BY DIFFERENCES IN QUALITY, SPECIFICATIONS, PACKAGING IN BULK OR SINGLE UNITS AND SERVICES PROVIDED BY THE VENDOR. OTHER FACTORS IN COST VARIATION CAN BE ATTRIBUTED TO QUANTITY OF MATERIAL ORDERED, SIZE OF TOTAL OF ALL MATERIALS ORDERED, QUANTITY OF MATERIALS HAVING THE SAME SIZE, COLOR OR GRADE, AND THE DISTRIBUTION OF THE MATERIALS WHEN THEY ARE DELIVERED. THE REPORT ALSO DISCUSSES VENDOR RELIABILITY IN TERMS OF MAKING ADJUSTMENTS OR REPLACEMENTS WITH MINIMAL CONFUSION, KEEPING THE BUYER UP-TO-DATE ON MATERIALS AND THE MARKET, AND CARRYING COMPLETE STOCK OF MATERIALS IN A GIVEN LINE.

ERIC/CEF DOCUMENT NO. EF000638 DISPOSITION-CERS 1

COMPACT SCHOOL AND $$ SAVINGS

BY- BAIR, W. G.
AMERICAN SCHOOL BOARD JOURNAL, MILWAUKEE, WISCONSIN

PUBLISHED-MAY66
IN- AMERICAN SCHOOL BOARD JOURNAL, MAY 66, PP. 32-33

2 PAGES

DESCRIPTORS- *AIR CONDITIONING, *COSTS, *FUEL CONSUMPTION, *HEATING, *TEMPERATURE

A REVIEW OF THE CRITERIA FOR CONSIDERING THE USE OF A TOTAL ENERGY SYSTEM WITHIN A SCHOOL BUILDING STATES THE WINDOWLESS, COMPACT SCHOOL OFFERS MORE EFFICIENT SPACE UTILIZATION WITH LESS AREA REQUIRED FOR GIVEN STUDENT POPULATION AND LOWER OPERATION COSTS. THE AUTHOR RECOMMENDS THAT THESE BUILDINGS BE WINDOWLESS TO REDUCE HEAT COSTS. HOWEVER, AT THE SAME TIME IT IS POINTED OUT THAT WINDOWLESS STRUCTURES REQUIRE INCREASED LIGHTING LEVELS, AIR CONDITIONING AND AIR TREATMENT. IT IS RECOMMENDED AT THIS POINT THAT SCHOOL PLANNERS SHOULD SEEK THE ADVICE OF A CONSULTANT ENGINEER TO ASSESS THE FEASIBILITY OF INSTALLING A TOTAL ENERGY UNIT. ANNUAL COSTS OF COMMERCIAL ENERGY SHOULD BE COMPARED WITH OPERATING AND MAINTENANCE OF THE TOTAL ENERGY SYSTEM. SHOULD THE PLANNERS FAVOR THE TOTAL ENERGY UNIT, THEY SHOULD ALSO CONSIDER THE PURCHASE OF BACK-UP UNITS TO OPERATE IN THE EVENT OF A POWER FAILURE OF THE PRIMARY UNIT. THIS ARTICLE APPEARED IN THE MAY, 1966 ISSUE OF AMERICAN SCHOOL BOARD JOURNAL. COPIES MAY BE OBTAINED FROM THE EDITOR, BRUCE PUBLISHING CO., 400 N. BROADWAY, MILWAUKEE, WISCONSIN 53211. (GM)

ERIC/CEF DOCUMENT NO. EF000641 ED 018 065 DISPOSITION-UFRC 1

DEVELOPING A PHYSICAL PLANT FOR ENGINEERING TECHNOLOGY

BY- MCCLURE, H. L.
FLORIDA STATE DEPARTMENT OF EDUCATION, TALLAHASSEE

PUBLISHED-JAN64
IN- PROCEEDINGS, CONFERENCE ON JUNIOR COLLEGE FACILITIES, TAMPA, JANUARY 23-25, 1964, VOL. 2

004 PAGES

DESCRIPTORS- *BUILDING DESIGN, *CAMPUS PLANNING, *COOPERATIVE PLANNING, *ECONOMIC FACTORS, *FACILITIES, BUDGETS, BUILDING EQUIPMENT, COLLEGE BUILDINGS, CONSTRUCTION COSTS, COST EFFECTIVENESS, GUIDELINES, HIGHER EDUCATION, PROGRAM COORDINATION

WITH A LIMITED BUILDING BUDGET OF TWO MILLION DOLLARS, SOUTHERN TECHNICAL INSTITUTE WAS ABLE TO CONSTRUCT A PERMANENT PHYSICAL PLANT CAPABLE OF HANDLING PRESENT AND FUTURE ENROLLMENTS. THE PROCEDURES TAKEN AND THE RESULTING CAMPUS FACILITIES ARE BRIEFLY OUTLINED, AND SOME GENERAL PLANNING SUGGESTIONS ADVANCED BY THE AUTHOR. MANY OF THE COST-REDUCTION PROCEDURES ARE UNIQUE IN THEIR DEVIATION FROM ACCEPTED STATE POLICIES. FOR INSTANCE, S.T.I. DEPARTED FROM THE ESTABLISHED POLICY OF REQUIRING A 'LOCK AND KEY' JOB AND ALLOCATED ALMOST THE TOTAL BUDGET FOR CONSTRUCTION AND ONLY A SMALL PORTION FOR EQUIPMENT. TO PROVIDE EQUIPMENT, MANY OF THE FURNITURE ITEMS WERE BUILT BY SCHOOL CARPENTERS AND THEN INSTALLED BY THE FACULTY AND STAFF. THE RESULTANT PHYSICAL PLANT PROVIDED SOME UNIQUE FEATURES WHICH ARE OUTLINED AND INCLUDE SUCH ITEMS AS HAVING ALL THE BUILDINGS CONNECTED BY COVERED WALKWAYS. FIVE GENERAL SUGGESTIONS ARE GIVEN BY THE AUTHOR WHICH MAY HELP PLANNERS PROVIDE SIMILAR FEATURES ON LIMITED BUDGETS. IN EVALUATING THE RESULTS IN OPERATION, IT WAS EVIDENT THAT CLOSE COOPERATION AND COORDINATION OF DEPARTMENTAL AND ARCHITECTURAL PERSONNEL COULD PROVIDE AN EFFECTIVE AND UNIQUE FACILITY ON A LIMITED BUDGET. (BH)

ERIC/CEF DOCUMENT NO. EF000673 DISPOSITION-CERS 1

WHY THE SCHOOL DISTRICT SHOULD BID INSURANCE

BY- GRAYSON, ERNEST C.
ASSOCIATION OF SCHOOL BUSINESS OFFICIALS, CHICAGO, ILLINOIS

PUBLISHED- 65
IN- PROCEEDINGS, ASSOCIATION OF SCHOOL BUSINESS OFFICIALS OF THE UNITED STATES AND CANADA, 50TH ANNUAL MEETING AND EDUCATIONAL EXHIBIT, SAN FRANCISCO, CALIFORNIA, OCTOBER 17-22, 1964

C08 PAGES

DESCRIPTORS- *COSTS, *INSURANCE, *MANAGEMENT, *SCHOOL INSURANCE, MONEY MANAGEMENT

THIS IS A STATEMENT OF THE ADVANTAGES OF PLACING SCHOOL DISTRICT INSURANCE ON A SINGLE COVERAGE BID BASIS. PRIMARY ADVANTAGES ARE--CREATING GOOD RELATIONSHIPS WITH INSURANCE REPRESENTATIVES, CREATING PUBLIC CONFIDENCE IN HANDLING THE SCHOOL INSURANCE PROGRAM, AND SAVING THE DISTRICT MONEY THROUGH COMPETITIVE BIDDING. INSURANCE COVERAGE BY ONE COMPANY IS DEEMED ON THE BASIS OF PLOT PLANS OF ALL SCHOOL LOCATIONS, OVERALL SERVICE, DESCRIPTIVE INFORMATION ON ALL SCHOOL LOCATIONS, DESCRIPTIVE INFORMATION ON ALL SCHOOLS, ENGINEERING SERVICE ON NEW BUILDINGS, ANALYSIS OF RATES ON BUILDINGS, RECOMMENDATIONS FOR ELIMINATION OF RATING PENALTIES AND ONE POLICY INSTEAD OF MANY. PROCEDURES FOR COMPANIES TO SUBMIT BIDS ARE DISCUSSED. FORMAL CONTRACT BIDS ARE PREFERRED TO VERBAL OR LETTER BIDS, HOWEVER SEALED BIDS ARE DESIRABLE WHERE COMPLETE SPECIFICATIONS ARE STIPULATED. NEGOTIATIONS IN BIDDING MAY BE ADVANTAGEOUS WHERE SPECIFICATIONS CANNOT BE PREDETERMINED. IT IS SUGGESTED THAT BIDDING PROCEDURES BE USED IN SECURING ALL TYPES OF INSURANCE FOR THE SCHOOL DISTRICT.

BIDDING INSURANCE

BY- SCHAERER, ROBERT W.
ASSOCIATION OF SCHOOL BUSINESS OFFICIALS, CHICAGO, ILLINOIS

PUBLISHED- 65
IN- PROCEEDINGS, ASSOCIATION OF SCHOOL BUSINESS OFFICIALS OF THE UNITED STATES AND CANADA, 50TH ANNUAL MEETING AND EDUCATIONAL EXHIBIT, SAN FRANCISCO, CALIFORNIA, OCTOBER 17-22, 1964

012 PAGES

DESCRIPTORS- *COSTS, *INSURANCE, *MANAGEMENT, MONEY MANAGEMENT, SCHOOL INSURANCE

THIS REPORT IS A PRESENTATION OF CRITERIA FOR PURCHASING SCHOOL INSURANCE ON A BID BASIS. EVALUATIVE FACTORS ARE OUTLINED FOR SITUATIONS IN WHICH THE BIDDING PRECEDURE MAY OR MAY NOT BE FEASIBLE. SOME ADVANTAGES TO PURCHASING INSURANCE ON A BID BASIS ARE--BETTER POLICY SERVICE, LOWER COSTS, BROADER COVERAGE, AND STRENGTHENED PUBLIC RELATIONS. TABLES FOR BID TABULATION AND A LIST OF BOOKS ON INSURANCE COMPANY RATINGS ARE PRESENTED.

ERIC/CEF DOCUMENT NO. EF000793 DISPOSITION-EDC- 1

THE CRITICAL-PATH METHOD OF CONSTRUCTION CONTROL

BY- DOMBROW, ROGER T. AND MAUCHLY, JOHN
NATIONAL COUNCIL ON SCHOOLHOUSE CONSTRUCTION, EAST LANSING, MICHIGAN

PUBLISHED-OCT63
IN- PROCEEDINGS OF THE NCSC 40TH ANNUAL MEETING, PRINCETON, NEW JERSEY, OCTOBER 7-10, 1963

009 PAGES

DESCRIPTORS- *COMPARATIVE ANALYSIS, *MANAGEMENT, *NETWORKS, *SCHEDULING, *SCHOOL CONSTRUCTION, COMPUTERS, CONSTRUCTION COSTS, SYSTEMS ANALYSIS, TIME

THIS DISCUSSION PRESENTS A DEFINITION AND BRIEF DESCRIPTION OF THE CRITICAL-PATH METHOD AS APPLIED TO BUILDING CONSTRUCTION. INTRODUCING REMARKS CONSIDER THE MOST PERTINENT QUESTIONS PERTAINING TO CPM AND THE NEEDS ASSOCIATED WITH MINIMIZING TIME AND COST ON CONSTRUCTION PROJECTS. SPECIFIC DISCUSSION INCLUDES--(1) ADVANTAGES OF NETWORK TECHNIQUES, (2) A COMPARISON OF BAR CHARTS AND CPM, (3) THE OPERATION OF CPM, (4) WHEN CPM MAY BE USED, AND (5) A SUMMARY OF ADVANTAGES TO THE OWNER, ARCHITECT, AND CONTRACTOR. SPECIFIC ASPECTS OF CPM ARE--(1) ACTIVITIES, (2) TIME DURATION, (3) ACTIVITY COST, (4) MANPOWER ASSIGNED, (5) FLOAT TIME, (6) CRITICAL ACTIVITIES, (7) COMPLETION DATE, AND (8) COMPUTER PRINTOUT. THIS ARTICLE IS PUBLISHED IN THE PROCEEDINGS OF THE NCSC, 40TH ANNUAL MEETING, PRINCETON, NEW JERSEY, OCTOBER 7-10, 1963. ADDITIONAL COPIES OF THE PROCEEDINGS MAY BE OBTAINED FOR $2.50 FROM THE SECRETARY, COUNCIL ON EDUCATIONAL FACILITY PLANNERS, OHIO STATE UNIVERSITY, COLUMBUS, OHIO. (MM)

ERIC/CEF DOCUMENT NO. EF000820 DISPOSITION-CERS 2

CURRENT TRENDS IN SCHOOL FACILITIES

SCHOOL MANAGEMENT INC., GREENWICH, CONNECTICUT

IN- ANNUAL SCHOOL BUILDING ISSUE, SCHOOL MANAGEMENT VOL 9 NO 7 JULY 1965 PP 108-141

034 PAGES

DESCRIPTORS- *CONSTRUCTION COSTS, *EQUIPMENT, *SCHOOL FACILITIES,

THIS DOCUMENT PRESENTS GRAPHS AND CHARTS WHICH DEMONSTRATE CURRENT TRENDS IN THE COSTS, EQUIPMENT, AND MATERIALS IN THE CONSTRUCTION OF ELEMENTARY AND SECONDARY SCHOOLS FOR THE 1963, 1964 AND 1965 SCHOOL YEARS. BY SCHOOL SIZE AND STATE, THE DOCUMENT LISTS CLASSROOM COSTS, PER PUPIL COSTS AND THE SPECIALIZED FACILITIES WHICH ARE BEING PROVIDED IN AUDITORIUMS, CAFETERIAS, KITCHENS, GYMNASIUMS, LANGUAGE LABORATORIES, SCIENCE LABORATORIES, INDUSTRIAL ARTS, ART, HOME ECONOMICS, BUSINESS EDUCATION, LIBRARY, AND MUSIC. SPECIALIZED COSTS FOR EDUCATIONAL TELEVISION, AIR CONDITIONING, CARPETING, AND OPERABLE WALLS ARE INCLUDED.

ERIC/CEF DOCUMENT NO. EF000901 ED 015 628 DISPOSITION-UFRC 1

GUIDELINE PROCEDURES AND CRITERIA FOR CAMPUS DEVELOPMENT AND CAPITAL OUTLAY PLANNING

BY- MASON, THOMAS R.
ASSOCIATION OF STATE INSTITUTIONS OF HIGHER EDUCATION IN COLORADO

PUBLISHED-APR64

476 PAGES

DESCRIPTORS- *CAMPUS PLANNING, *CAPITAL OUTLAY (FOR FIXED ASSETS), *COLLEGE BUILDINGS, *FACILITY GUIDELINES, *FACILITY UTILIZATION RESEARCH, CONSTRUCTION COSTS, CRITERIA, EDUCATIONAL COMPLEXES, LAND USE

T+E PURPOSE OF THIS MANUAL IS TO PROVIDE A BASIS FOR SYSTEMATICALLY PROGRAMMING THE REQUIREMENTS FOR PHYSICAL PLANT AND LAND TO ACCOMMODATE THE NEEDS OF AN INSITUTION UNDER A SPECIFIED SET OF CIRCUMSTANCES. THE MANUAL IS ORGANIZED INTO SIX BROAD ELEMENTS--(1) ACTIVITY LEVELS OF ENROLLMENT, INSTRUCTIONAL WORKLOADS AND STAFF REQUIREMENTS, (2) PLANNING CRITERIA FOR UTILIZATION AND PHYSICAL FACTORS, (3) SPACE REQUIREMENTS NEEDED FOR ANY FUNCTIONAL CATEGORY OF THE INSTITUTION, (4) BUILDING OCCUPANCY PROGRAMS FOR THE DISRIBUTION OF INSTITUTIONAL SPACE REQUIREMENTS AMONG PRESENT AND FUTURE BUILDINGS, (5) CAMPUS DEVELOPMENT AND LAND REQUIREMENTS FOR BUILDINGS, PARKING FACILITIES, AND ATHLETIC FACILITIES, AND (6) CAPITAL BUDGETING FOR MAINTENANCE AND ALTERATION OF PRESENT BUILDINGS, COSTS OF NEW CONSTRUCTION AND LAND ACQUISITION. WORKSHEETS ARE PROVIDED FOR A THOROUGH COLLECTION OF DATA AND ANALYSIS IN THE ABOVE NOTED AREAS. (HH)

ERIC/CEF DOCUMENT NO. EF000911 ED 015 630 DISPOSITION-UFRC 1

NEW CAMPUSES FOR OLD A CASE STUDY OF FOUR COLLEGES THAT MOVED

BY- ZISMAN, S. B. AND POWELL, CATHERINE
EDUCATIONAL FACILITIES LABORATORIES, NEW YORK, N. Y.

32 PAGES

DESCRIPTORS- *CASE STUDIES (FACILITIES), *COLLEGE PLANNING, *CONSTRUCTION COSTS, *HIGHER EDUCATION CAMPUS PLANNING, *RELOCATION, COOPERATIVE PLANNING, EDUCATIONAL SPECIFICATIONS, FACILITY GUIDELINES, FACILITY REQUIREMENTS, SCHOOL COMMUNITY RELATIONSHIP, SITE SELECTION, TRANSPORTATION

THIS REPORT TREATS THE PROBLEMS INVOLVED IN MOVING FROM AN OLD CAMPUS AND CREATING A NEW CAMPUS. IT IS BASED ON THE EXPERIENCES OF FOUR COLLEGES WITH PARTICULAR EMPHASIS ON SKIDMORE COLLEGE IN SARATOGA SPRINGS, N.Y. WHICH HAD DECIDED TO MOVE. THE QUESTIONS DISCUSSED CENTER AROUND SUCH TOPICS AS THE REASON FOR MOVING, THE KIND OF NEW SITE, THE KIND OF NEW CAMPUS AND NEW PROGRAM, AND WHAT TO MOVE FIRST. PARTICULAR PROBLEMS STUDIED ARE TRANSPORTATION, DUPLICATION, CONVERSIONS, COSTS, INTERNAL ADJUSTMENTS AND EFFECT ON COMMUNITY. THE REPORT ADVISES THAT THE MASTER PLAN NEEDED FOR SUCH AN UNDERTAKING BE DEVELOPED BY AN OUTSIDE PLANNING AGENCY. THIS REPORT MAY BE OBTAINED FROM EDUCATIONAL FACILITIES LABORATORIES, 477 MADISON AVENUE, NEW YORK, NEW YORK, 10022. (HH)

ERIC/CEF DOCUMENT NO. EF000923 DISPOSITION-CERS 1

THE RELATIONSHIP OF INITIAL COST AND MAINTENANCE COST IN ELEMENTARY SCHOOL BUILDINGS

BY- ZIMMERMAN, WILLIAM J.
EDUCATIONAL FACILITIES LABORATORIES, INC., STANFORD, CALIFORNIA, WESTERN REGIONAL CENTER

PUBLISHED-JUL60
IN- REPORT NUMBER 1

18 PAGES

DESCRIPTORS- *CONSTRUCTION COSTS, *COSTS, *MAINTENANCE, *PLANNING, *SCHOOL PLANNING, SCHOOL MAINTENANCE

THIS REPORT IS A STATISTICAL ANALYSIS OF THE RELATIONSHIP BETWEEN INITIAL SCHOOL CONSTRUCTION COSTS AND FUTURE MAINTENANCE COSTS. WHILE THE STUDY IS RESTRICTED TO THE LOS ANGELES CITY SCHOOL DISTRICT, THE RESULTS ARE TO SOME EXTENT GENERALIZABLE. THE STUDY SHOWS AN INVERSE RELATIONSHIP IN THESE COSTS--WHERE INITIAL CONSTRUCTION COSTS ARE LOW MAINTENANCE COSTS TEND TO BE HIGH. FACTORS RELATED TO INITIAL COST ARE--WALL CONSTRUCTION IN OFFICES AND CLASSROOMS, THE NUMBER OF BIDDERS FOR EACH BUILDING AND ADDITION, THE YEAR OF THE BID, SITE TOPOGRAPHY, AND TOTAL NUMBER OF SQUARE FEET OF PERMANENT CONSTRUCTION IN A SINGLE BID. THESE FACTORS TEND TO REDUCE THE DIFFERENCE BETWEEN THE TWO COSTS AND COUNTERACT THE EFFECT ON FUTURE MAINTENANCE COST RESULTING FROM MATERIAL USED IN CONSTRUCTION. TWO RELATIONSHIPS BETWEEN THESE COSTS ARE SHOWN--THE LARGER THE PROPORTION OF CLASSROOMS IN A BUILDING THE LOWER THE INITIAL AND MAINTENANCE COSTS, THE LARGER THE PROPORTION OF THE SCHOOL BUILDING DEVOTED TO GROUP ACTIVITY, THE HIGHER THE INITIAL COST BUT THE LOWER THE MAINTENANCE COST. METHODOLOGY FOR THE STUDY, CHARTS AND RECOMMENDATIONS ARE INCLUDED IN THE REPORT. THIS DOCUMENT IS AVAILABLE FROM THE WESTERN REGIONAL CENTER, EDUCATIONAL FACILITIES LABORATORIES, INC., SCHOOL OF EDUCATION, STANFORD UNIVERSITY, STANFORD, CALIFORIA. (GM)

ERIC/CEF DOCUMENT NO. EF000955 DISPOSITION-CERS 2

FINANCING SCHOOL BUILDING CONSTRUCTION

BY- ROBINSON, RAYMOND W. AND SPEIDEL, HAROLD O.
PENNSYLVANIA STATE DEPARTMENT OF PUBLIC INSTRUCTION, HARRISBURG

PUBLISHED- 64
IN- SCHOOL EXECUTIVE SERIES NO. 5

010 PAGES

DESCRIPTORS- *CONSTRUCTION COSTS, *EDUCATIONAL FINANCE, *FINANCIAL NEEDS, *SCHOOL CONSTRUCTION, BOND ISSUES, CONSTRUCTION NEEDS, FINANCIAL SUPPORT, MUNICIPALITIES, STATE AIDS, AUTHORITY, FINANCING

THIS PUBLICATION OUTLINES THE VARIOUS METHODS THAT MAY BE EMPLOYED BY PENNSYLVANIA SCHOOL DISTRICTS TO FINANCE BUILDING CONSTRUCTION. PAY-AS-YOU-GO IS CITED AS THE MOST ECONOMICAL WAY SINCE FUNDS COME FROM CURRENT TAX RECEIPTS. TEMPORARY LOANS ARE NEXT. SUCH LOANS ARE CONSIDERED TO BE FOR FIVE YEARS OR LESS. ISSUANCE OF GENERAL OBLIGATION BONDS IS ANOTHER COMMON METHOD OF FINANCING NEW CONSTRUCTION. STATUTORY LIMITATIONS PROVIDE CONTROLS WHICH MUST BE OBSERVED. THE MOST COMMON METHOD OF FINANCING CONSTRUCTION IS THROUGH USE OF A MUNICIPALITY AUTHORITY. THIS IS A SEPARATE CORPORATE ENTITY WHICH BUILDS THE BUILDING AND RENTS IT TO THE SCHOOL DISTRICT ON A LONG-TERM LEASE. THE STATE PUBLIC BUILDING AUTHORITY CAN DO THE SAME THING AS A MUNICIPALITY AUTHORITY. INTEREST RATES ARE OFTEN LOWER THROUGH SUCH A BODY. PROVISIONS ARE MADE FOR STATE REIMBURSEMENT ON APPROVED BUILDING PROJECTS.

ERIC/CEF DOCUMENT NO. EF000961 DISPOSITION-EDC- 2

RESEARCH STUDY IN THE COST OF HOUSING

NEW YORK STATE DIVISION OF HOUSING AND COMMUNITY RENEWAL, ALBANY

PUBLISHED-OCT62
IN- VOL. III

34 PAGES

DESCRIPTORS- *BUILDING MATERIALS, *CONSTRUCTION COSTS, *ENVIRONMENTAL RESEARCH, *FACILITY CASE STUDIES, *HOUSING, MAINTENANCE, STRUCTURAL SYSTEMS

RESULTS OF A STUDY BASED ON EXPERIMENTS CONDUCTED IN MULTISTORY FIREPROOF STRUCTURES OF PUBLIC HOUSING PROJECTS AND IN A MOCK-UP SIMULATING ALL CONDITIONS OF A FIREPROOF STRUCTURE. THE FINDINGS ARE BASED ON TESTS CONDUCTED DURING SEVERAL WINTER SEASONS, NONE OF WHICH DEVIATED MARKEDLY FROM A NORM IN NEW YORK CITY. RESULTS ARE--(1) A STRUCTURE WITH CONVENTIONAL CAVITY WALLS WITH SINGLE GLAZED SASH REQUIRES 2.3 TIMES AS MUCH ENERGY TO HEAT AS A STRUCTURE WITH POLYSTYRENE INSULATED CAVITY WALLS AND DOUBLE GLAZED SASH WITH THERMO-BARRIER FRAMES, (2) SAVINGS IN THE INITIAL CONSTRUCTION ARE ESTIMATED AT $10,150.00, AND (3) THE SAVINGS IN THE COST OF MAINTENANCE ARE INDICATED AT $15,531.00 PER ANNUM. INCLUDED IS A HISTORY OF THE EXPERIMENT ALONG WITH DRAWINGS AND CHARTS. (RK)

ERIC/CEF DOCUMENT NO. EF000981 DISPOSITION-CERS 2

SCHOOL BUILDING PROJECT PROCEDURES (A GUIDE FOR THE SCHOOL BUILDING COMMITTEE)

CONNECTICUT STATE DEPARTMENT OF EDUCATION, HARTFORD

PUBLISHED-JUN60
IN- SCHOOL BUILDING ECONOMY SERIES-*1

043 PAGES

DESCRIPTORS- *CONSTRUCTION COSTS, *CONTRACTS, *BUDGETING, *SCHOOL BUILDINGS, *SCHOOL PLANNING,

IN 1959 THE CONNECTICUT GENERAL ASSEMBLY PASSED LEGISLATION REQUIRING 'THAT THE STATE DEPARTMENT OF EDUCATION ESTABLISH A SCHOOL CONSTRUCTION SERVICE TO ASSIST COMMUNITIES IN ACHIEVING INCREASED ECONOMY IN THEIR SCHOOL BUILDING PROJECTS.' IT FURTHER REQUIRES 'EACH PROJECT BE REVIEWED BY THE SERVICE FOR ECONOMY IN ORDER TO QUALIFY FOR STATE CONSTRUCTION GRANT.' THIS FIRST BOOKLET RECOMMENDS PROCEDURES DESIGNED TO ELIMINATE 'WASTED EFFORT, LOST TIME, AND THE RESULTANT, HIDDEN BUT CONSIDERABLE COST.' IT IS A MUST IN PROCEDURES WHICH COMMUNITIES SHOULD FOLLOW IF THEY WISH TO OBTAIN FINANICAL ASSISTANCE UNDER THE CONNECTICUT SCHOOL BUILDING AID LAW. CHAPTERS ON SCHOOL BUILDING COMMITTEE, ALLOCATION OF RESPONSIBILITIES, EDUCATIONAL SPECIFICATIONS RECONSIDERED, SELECTING AN ARCHITECT, TIME FOR PLANNING, BUDGETING AND COST CONTROL, CONTRACT DOCUMENTS, BIDDING AND CONSTRUCTING, AND CONSTRUCTION PERIOD, ARE SHORT, CONCISE, AND USEFUL TO GROUPS AND OFFICIALS PLANNING SCHOOL FACILITIES. THE OTHER FOUR CHAPTERS ARE APROPOS ONLY TO CONNECTICUT AND OTHER STATE LAWS AND REGULATIONS.

ERIC/CEF DOCUMENT NO. EF000983 DISPOSITION-CERS 2

MISSISSIPPI'S 300 MILLION DOLLAR SCHOOL CONSTRUCTION PROGRAM

BY- NAYLOR, T. H. JR. AND CAIN, G. J.
MISSISSIPPI STATE EDUCATIONAL FINANCE COMMISSION, JACKSON

PUBLISHED-JUL65

026 PAGES

DESCRIPTORS- *COSTS, *IMPROVEMENTS, *PLANNING, CONSTRUCTION COSTS, BUILDING IMPROVEMENT, PUBLIC SCHOOLS, SCHOOL PLANNING, SOUTHERN SCHOOLS

THIS REPORT IS A REVIEW OF THE ASSISTANCE PROGRAM FROM 1946 TO THE PRESENT FOR LOCAL SCHOOL DISTRICTS IN MISSISSIPPI. SCHOOL DISTRICT PROGRAM NEEDS WERE DETERMINED BY A CITIZEN'S COUNCIL, A LEGISLATURE STUDY COMMITTEE, AN EDUCATIONAL FINANCE COMMITTEE AND A LEGISLATIVE REPORT IN PUBLIC EDUCATION. THESE GROUPS EXAMINED EXISTING SCHOOL PLANT FACILITIES AND MADE RECOMMENDATIONS IN TERMS OF PROJECTIONS OF FUTURE NEEDS. A TABLE OF ALLOCATIONS TO SCHOOL DISTRICTS AND A TABLE OF ANNUAL ALLOCATIONS ARE INCLUDED IN THE REPORT. A SUMMARY PRESENTS SITE SPECIFICATIONS, FACILITIES INCLUDED, THE REDUCTION OF THE NUMBER OF SCHOOL DISTRICTS, SCHOOL POPULATION GROWTH AND SCHOOL CONSTRUCTION COSTS.

ERIC/CEF DOCUMENT NO. EF001010 DISPOSITION-CERS 2

DECENTRALIZED SCHOOL VS. CENTRALIZED SCHOOL, INVESTIGATION, NO. 3

BY- PASEUR, C. HERBERT
CAUDILL, ROWLETT AND SCOTT, HOUSTON, TEXAS

PUBLISHED-JUL60

013 PAGES

DESCRIPTORS- *, BUILDING DESIGN, CONSTRUCTION COSTS,
DECENTRALIZED SCHOOL DESIGN, INTERMEDIATE GRADES

A BASIC COMPARISON WAS MADE BETWEEN TWO INTERMEDIATE SCHOOLS HOUSING GRADES 5 THROUGH 8 IN SAGINAW, MICHIGAN. BOTH SCHOOLS WERE LET TO THE SAME CONTRACTOR ON MARCH 15, 1960, USED THE SAME TYPES OF STRUCTURAL, MECHANICAL, AND ELECTRICAL SYSTEMS, MATERIALS, AND CONSTRUCTION DETAILS BUT WERE DIFFERENT IN GEOMETRIC LAYOUT, WERE LOCATED ON LEVEL SITES WITH APPROXIMATELY THE SAME SOIL CONDITION, HAD EXACTLY THE SAME EDUCATIONAL PROGRAM AND SPACE REQUIREMENTS FOR 650 PUPILS. THE DIFFERENCE, WHICH PROMPTED THE EXPERIMENT, WAS THE SITE SIZE. THE CENTRALIZED SCHOOL SITE CONSISTED OF 17.5 ACRES, THE DECENTRALIZED SCHOOL SITE, 32.1 ACRES. A CHART OF THE BREAKDOWN OF COST BETWEEN THE TWO SCHOOLS IS DIVIDED INTO THREE AREAS AND 18 ITEMS--(1) COST DATA, (2) EDUCATION DATA, AND (3) GEOMETRY DATA. A SITE LAYOUT DRAWING IS INCLUDED ALSO. THE DECENTRALIZED SCHOOL COST 3.8 PERCENT MORE--BUT THE STUDY GROUP WISHED TO WAIT A YEAR OR TWO FOR A EVALUATION BY THE SUPERINTENDENT AND FACULTY OF THE EDUCATIONAL PERFORMANCE. THERE IS NOT CONCLUSIVE EVIDENCE AT THIS TIME THAT FIRST COST SAVINGS SHOULD BE THE DETERMINING FACTOR FOR PLANNING FUTURE SCHOOLS. FURTHER EVALUATION MAY SHOW THAT THE SMALL ADDITIONAL COST MAY BUY A BARGAIN IN INCREASED EDUCATIONAL PERFORMANCE.

ERIC/CEF DOCUMENT NO. EF001084 DISPOSITION-CERS 1

FIRE INSURANCE AND WOOD SCHOOL BUILDINGS

BY- PURCELL, FRANK X.

PUBLISHED-MAR63
IN- AMERICAN SCHOOL BOARD JOURNAL, MARCH 1963

3 PAGES

DESCRIPTORS- *BUILDINGS, *COSTS, *INSURANCE, *PLANNING, *SCHOOL CONSTRUCTION, CHOOL BUILDINGS, SCHOOL PLANNING

A COMPARISON OF FIRE INSURANCE COSTS OF WOOD, MASONRY, STEEL AND CONCRETE STRUCTURES SHOWS FIRE INSURANCE PREMIUMS ON WOOD STRUCTURES TEND TO BE HIGHER THAN PREMIUMS ON MASONRY, STEEL AND CONCRETE BUILDINGS, HOWEVER, THE INITIAL COST OF THE WOOD BUILDINGS IS LOWER. DATA SHOW THAT THE SAVINGS ACHIEVED IN THE INITIAL COST OF WOOD STRUCTURES OFFSET THE ADDITIONAL FIRE INSURANCE PREMIUM COST WHEN COMPUTED OVER AN EXTENDED PERIOD OF TIME. THE PUBLIC AND INS ITUTIONAL PROPERTY PLAN WHICH OFFERS SCHOOL DISTRICTS A NUMBER OF BENEFITS, ONE OF WHICH IS A PREMIUM REDUCTION, IS CITED. COPIES OF THIS ARTICLE MAY BE OBTAINED BY WRITING THE EDITOR. WILLIAM C. BRUCE, BRUCE PUBLISHING COMPANY, 400 NORTH BROADWAY, MILWAUKEE, WISCONSIN 53211. (GM)

ERIC/CEF DOCUMENT NO. EF001128 ED 016 363 DISPOSITION-CERS 1

COMPONENTS FOR SCHOOL CONSTRUCTION IN THE MID-HUDSON REGION,---FINAL REPORT 3

RENSSELAER POLYTECHNIC INSTITUTE, TROY, NEW YORK, CENTER FOR ARCHITECTURAL RESEARCH

PUBLISHED-MAR66

027 PAGES

DESCRIPTORS- *BUILDING DESIGN, *CONSTRUCTION COSTS, *COSTS, *SCHOOL CONSTRUCTION, *SCHOOL DESIGN, COMPONENT SYSTEM, CONSTRUCTION COSTS, DESIGN

THE FINAL REPORT OF A THREE PART FEASIBILITY STUDY OF THE COMPONENT CONSTRUCTION SYSTEMS SAMPLED APPROPRIATED ASPECTS OF THE SCHOOL CONSTRUCTION CLIMATE IN NEW YORK STATE. IT SOUGHT TO DETERMINE THE APPROPRIATENESS OF THE SCHOOL CONSTRUCTION SYSTEM DEVELOPMENT PROCESS TO SCHOOL CONSTRUCTION IN THE MID-HUDSON VALLEY AND TO EXPLORE POSSIBILITIES FOR THE ACCOMPLISHMENT OF SUCH PROGRAMS. THIS COMPONENT APPROACH SEEKS TO ACHIEVE ECONOMIES BY STANDARDIZING CERTAIN UNITS OF CONSTRUCTION AND EQUIPMENT AND BY LARGE SCALE PURCHASING OF THESE COMPONENTS.THIS STUDY CONTAINS A SUMMARY OF THE EIGHT 'CLIMATE AREAS' THAT WERE INVESTIGATED AND CONCLUSIONS AS TO THE VARIOUS ASPECTS OF FEASIBILITY. (BD)

ERIC/CEF DOCUMENT NO. EF001165 DISPOSITION-CERS 2

THE CARPETED LIBRARY

BY- GARRETT, JOE B.
AMERICAN CARPET INSTITUTE, NEW YORK, N. Y.

PUBLISHED-JUN64

007 PAGES

DESCRIPTORS- *ACOUSTICAL ENVIRONMENT, *CARPET, *COSTS, *MAINTENANCE, *LIBRARIES, CONTROLLED ENVIRONMENT, PHYSICAL ENVIRONMENT, SCHOOL ENVIRONMENT, SCHOOL MAINTENANCE

THIS REPORT IS A DISCUSSION OF THE ADVANTAGES OF CARPETED FLOOR COVERINGS FOR LIBRARIES. THE TWO MAIN ADVANTAGES PRESENTED FOR USING CARPETING ARE NOISE CONTROL AND LOW MAINTENANCE COSTS. ACCORDING TO THE REPORT CARPET REDUCES FLOOR INSTIGATED OR IMPACT NOISES WHILE BEING PSYCHOLOGICALLY DIGNIFYING AND CREATING USER RESPECT AND PROPER BEHAVIOR PATTERNS. MAINTENANCE COSTS FOR CARPET ARE LESS THAN FOR OTHER TYPES OF FLOOR COVERINGS BECAUSE OTHER FLOOR COVERINGS GENERALLY REQUIRE EXTENSIVE SURFACE PREPARATION. WHEN ALL ROOM SURFACES ARE CONSIDERED, THE INITIAL COST OF CARPET IS LITTLE IF ANY MORE THAN OTHER FLOOR COVERINGS. CARPETING CAN BE USED QUICKLY AND ECONOMICALLY AS A REPLACEMENT FLOOR COVERING IN OLDER LIBRARIES FOR BOTH AESTHETIC AND UTILITY PURPOSES. (GM)

ERIC/CEF DOCUMENT NO. EF001168 DISPOSITION-CERS 2

MANUAL FOR SCHOOL BUILDING COMMISSIONS OF THE STATE OF DELAWARE

BY- GOUSHA, RICHARD P.
DELAWARE STATE DEPARTMENT OF PUBLIC INSTRUCTION, DOVER

PUBLISHED-JUN65

116 PAGES

DESCRIPTORS- *FACILITY GUIDELINES, *SCHOOL ACCOUNTING, *SCHOOL BUILDINGS, *SCHOOL CONSTRUCTION, *SCHOOL PLANNING, BOND ISSUES, CONSTRUCTION COSTS

THE MANUAL IS DESIGNED FOR LOCAL SCHOOL BUILDING COMMISSIONS RESPONSIBLE FOR THE MANAGEMENT OF A CONSTRUCTION PROGRAM. IT INCLUDED PROVISIONS OF DELAWARE STATE LAW AND RECOMMENDED PROCEDURES FOR THE PROGRAM. AREAS DISCUSSED INCLUDE--(1) FINANCING, (2) SCHOOL CONSTRUCTION FORMULA FOR SPACE ALLOWANCES, (3) PROPOSED SCHOOL BUILDING BUDGET, (4) PROCEDURES FOR SCHOOL BUILDING CONSTRUCTION, (5) A CHECKLIST FOR ACCOUNTING SYSTEM, (6) PURCHASE ORDER PROCEDURES, (7) INVOICE PROCEDURES, (8) BIDDING PROCEDURES, (9) FEDERAL PROGRAMS, AND (10) REVERSION OF SCHOOL CONSTRUCTION FUNDS. A GLOSSARY IN INCLUDED.

ERIC/CEF DOCUMENT NO. EF001233 DISPOSITION-CERS 2

BASIC PLANNING PROCEDURES

NEVADA STATE DEPARTMENT OF EDUCATION, CARSON CITY

17 PAGES

DESCRIPTORS- *BUILDINGS, *COSTS, *EDUCATIONAL SPECIFICATIONS, *PLANNING, SCHOOL PLANNING, ESTIMATED COSTS, SCHOOL BUILDINGS

THIS REPORT IS AN OUTLINE OF THE BASIC SCHOOL PLANT PLANNING PROCEDURE FOR THE STATE OF NEVADA. THE PROCEDURE ENTAILS THE USE OF AN EDUCATIONAL PLANNING CONSULTANT, STATEMENTS OF EDUCATIONAL AND SERVICE PROBLEMS TO BE SOLVED BY PROPOSED CONSTRUCTION, A SITE PLAN AND ARCHITECT SELECTION. ALSO INCLUDED IN THE OUTLINE OF PROCEDURES IS A TENTATIVE STATEMENT OF SPECIFICATIONS, TENTATIVE COST ESTIMATES AND MATRICES FOR CONDUCTING SPACE UTILIZATION SURVEYS.

ERIC/CEF DOCUMENT NO. EF001253 DISPOSITION-EDC- 1

SOLAR EFFECTS ON BUILDING DESIGN

BUILDING RESEARCH INSTITUTE, WASHINGTON, D. C.

PUBLISHED- 63

REPORT/SERIES NO.- PUB-1007

180 PAGES

DESCRIPTORS- *BUILDING DESIGN, *HEATING, *LIGHTING, *SOLAR RADIATION, *THERMAL ENVIRONMENT, AIR CONDITIONING EQUIPMENT, CLIMATE CONTROL, CONTROLLED ENVIRONMENT, COSTS, GLASS WALLS, TEMPERATURE

A REPORT OF A PROGRAM HELD AS PART OF THE BUILDING RESEARCH INSTITUTE 1962 SPRING CONFERENCE ON THE SOLAR EFFECTS ON BUILDING DESIGN. TOPICS DISCUSSED ARE--(1) SOLAR ENERGY DATA APPLICABLE TO BUILDING DESIGN, (2) THERMAL EFFECTS OF SOLAR RADIATION ON MAN, (3) SOLAR EFFECTS ON ARCHITECTURE, (4) SOLAR EFFECTS ON BUILDING COSTS, (5) SELECTION OF GLASS AND SOLAR SHADING TO REDUCE COOLING DEMAND, (6) DESIGN OF WINDOWS, (7) DESIGN OF SKYLIGHTS, (8) DESIGN OFELECTRIC ILLUMINATION, (9) WINDOW DESIGN IN EUROPE--A REVIEW OF RECENT LITERATURE, AND (10) SWEDISH PRACTICES IN WINDOW DESIGN. ALSO INCLUDED ARE OPEN FORUM DISCUSSIONS AND CONFERENCE SUMMARY. THE CONFERENCE ATTEMPED TO DEFINE VARIOUS PROBLEMS AND REVIEW SOME OF THE MEANS AT HAND TO SOLVE THEM. TWO OF THE EFFECTS OF SOLAR ENERGY ON BUILDING DESIGN WERE DICUSSED--LIGHT AND HEAT. THE UNDESIRABLE SOLAR EFFECTS OF AIR-CONDITIONED COMMERCIAL BUILDINGS WERE MAINLY DEALT WITH. SEVERAL SPECIFIC NEEDS HAVE BEEN PROMINENTLY INDICATED BY THIS CONFERENCE--(1) THE NEED FOR BETTER COMMUNICATION REGARDING THIS SUBJECT AND THE NEED FOR MORE GENERALLY AVAILABLE INFORMATION, PRESENTED IN TERMS READILY UNDERSTOOD BY THE AVERAGE ARCHITECT, WHOSE RESPONSIBILITY IT IS TO TRANSLATE THESE PRINCIPLES INTO BUILDING DESIGN, (2) THE NEED FOR MUCH MORE OBJECTIVE AND UNPREJUDICED RESEARCH IN THIS FIELD, AND (3) THE NEED FOR MORE BRI CONFERENCES ON THIS SUBJECT. CHARTS AND DIAGRAMS ACCOMPANY THE TEST. COPIES OF THIS PUBLICATION MAY ALSO BE OBTAINED FROM THE BUILDING RESEARCH INSTITUTE, 1725 DESALES STREET, N. W., WASHINGTON, D. C. 20036. PRICE $10.00. (RK)

ERIC/CEF DOCUMENT NO. EF001256 DISPOSITION-UFRC 1

SCIENCE FACILITIES (A CLASSIFIED LIST OF LITERATURE RELATED TO DESIGN, CONSTRUCTION AND OTHER ARCHITECTURAL MATTERS)

NATIONAL SCIENCE FOUNDATION, WASHINGTON, D.C., DIVISION OF INSTITUTIONAL PROGRAMS

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018 PAGES

DESCRIPTORS- *BIBLIOGRAPHIES, *CASE STUDIES (FACILITIES), *RESEARCH REVIEWS (PUBLICATIONS), *RESOURCE MATERIALS, *SCIENCE FACILITIES, BUILDING DESIGN, CONSTRUCTION COSTS, DESIGN NEEDS, LABORATORIES

A CLASSIFIED LIST OF ARTICLES, PAPERS AND CATALOGS IN THE SCIENCE FACILITIES COLLECTION OF THE ARCHITECTURAL SERVICES STAFF OF THE NATIONAL SCIENCE FOUNDATION WHICH MAY BE USEFUL IN SEARCHING FOR PERTINENT LITERATURE ON PROBLEMS IN THE DESIGN OF SCIENCE FACILITIES. CITATIONS COVER SUCH AREAS AS GENERAL PLANNING, SPACE UTILIZATION AND COST STUDIES, BUILDING TYPE STUDIES, CONSTRUCTION DETAILS, DESIGN CRITERIA AND EQUIPMENT SPECIFICATIONS. (BH)

ERIC/CEF DOCUMENT NO. EF001320 ED 016 373 DISPOSITION-UFRC 1

LONG RANGE CONSTRUCTION PROGRAM (UNIVERSITIES AND COLLEGES OF MONTANA)

BY- NELSON, EDWARD W.
MONTANA COMMISSION FOR HIGHER EDUCATION FACILITIES, HELENA

072 PAGES

DESCRIPTORS- *CONSTRUCTION PROGRAMS, *FACILITY EXPANSION, *HIGHER EDUCATION FACILITIES, *MASTER PLANS, CONSTRUCTION COSTS, ESTIMATED COSTS, FINANCIAL SUPPORT, PLANNING COMMISSIONS

THIS REPORT IS THE PROPOSED CONSTRUCTION PROGRAM FOR COLLEGES AND UNIVERSITIES IN MONTANA AND IS A RESULT OF THE STUDIES CONDUCTED FOR THE MONTANA COMMISSION FOR THE HIGHER EDUCATION FACILITIES ACT OF 1963. EACH INSTITUTION IS REPRESENTED IN A SECTION OF THE REPORT WHICH INCLUDES THE TITLE OF THE FACILITY, ITS CONSTRUCTION PRIORITY, THE COST ESTIMATE AND THE FINANCING SOURCE. A BRIEF, GENERAL DESCRIPTION IS GIVEN FOR THE INDIVIDUAL FACILITIES AND THE EXPECTED TIME OF OCCUPANCY. (BH)

ERIC/CEF DOCUMENT NO. EF001323 ED 016 374 DISPOSITION-CERS 1

SUMMARY OF ELECTRIC SERVICE COSTS FOR TOTALLY AIR CONDITIONED SCHOOLS PREPARED FOR HOUSTON INDEPENDENT SCHOOL DISTRICT, MAY 31, 1967

BY- WHITESIDES, M. M.
HOUSTON LIGHTING AND POWER COMPANY, TEXAS

PUBLISHED-MAY67

057 PAGES

DESCRIPTORS- *AIR CONDITIONING EQUIPMENT, *CLIMATE CONTROL, *CONTROLLED ENVIRONMENT, *COSTS, *OPERATING EXPENSES

THIS REPORT IS A COMPILATION OF DATA ON ELECTRIC AIR CONDITIONING COSTS, OPERATIONS AND MAINTENANCE. AIR CONDITIONING UNITS ARE COMPARED IN TERMS OF ELECTRIC VERSUS NON-ELECTRIC, AUTOMATIC VERSUS OPERATED, AIR COOLED VERSUS WATER COOLED, RECIPROCATING VERSUS CENTRIFUGAL COMPRESSORS, SPACE AND NOISE, REHEAT, MAINTENANCE AND ORIGINAL COST. DATA ARE PRESENTED SHOWING COMPARATIVE ELECTRIC COSTS OF BEFORE AND AFTER AIR CONDITIONING SERVICE INSTALLATIONS AND A TABULATION OF SERVICE COSTS FOR TOTALLY AIR CONDITIONED SCHOOLS. (GM)

ERIC/CEF DOCUMENT NO. EF001332 ED 017 152 DISPOSITION-UFRC 1

WHY A MASTER PLAN (THE AREA COMMUNITY COLLEGE)

PERKINS AND WILL PARTNERSHIP, ARCHITECTS, WASHINGTON, D. C.

066 PAGES

DESCRIPTORS- *CAMPUS PLANNING, *COMMUNITY COLLEGES, *GEOGRAPHIC LOCATION, *MASTER PLANS, COLLEGE BUILDINGS, CONSTRUCTION COSTS, EDUCATIONAL PROGRAMS, SITE ANALYSIS,

THIS OVERVIEW OF THE REASONS FOR THE MASTER PLANNING OF COMMUNITY COLLEGES IF ACCOMPANIED BY MANY CHARTS, SKETCHES AND PHOTOGRAPHS. DIFFERING TYPES OF BUILDINGS, SITES, AND PROGRAMS, AND THE ENSUING COSTS ARE REVIEWED. A TYPICAL SCHEDULE SHOWING FACILITY DEVELOPMENT AND FINANCING ON A NEW CAMPUS IS INCLUDED. FIVE CASE STUDIES AND TWO PROJECTED PLANS ARE OFFERED TO SHOW VARIANCE OF PROGRAM, SITE AND DESIGN SOLUTIONS IN RURAL, SEMI-RURAL, SUBURBAN, URBAN-MIDDLE CLASS AND CITY LOCATIONS. A PROCEDURE FOR MASTER PLANNING IS OUTLINED. (JP)

ERIC/CEF DOCUMENT NO. EF001437 DISPOSITION-EDC- 1

MAJOR CONSIDERATIONS IN SCHOOL MODERNIZATION - AGE, LOCATION, EDUCATIONAL ADEQUACY

BY- LHOTE, JOHN D.
RESEARCH COUNCIL OF THE GREAT CITIES PROGRAM FOR SCHOOL IMPROVEMENT, CHICAGO, ILLINOIS

PUBLISHED-OCT67
IN- NEW LIFE FOR OLD SCHOOLS NEWSLETTER, NO. 22

004 PAGES

DESCRIPTORS- *BUILDING IMPROVEMENT, *CONSTRUCTION COSTS, *EDUCATIONAL NEEDS, *PHYSICAL DESIGN NEEDS, *SCHOOL CONSTRUCTION, AGE, BUILDING OBSOLESCENCE, EDUCATIONAL FACILITIES, EDUCATIONAL SPECIFICATIONS, FLEXIBLE FACILITIES, SCHOOL LOCATION

A DESCRIPTION OF THE RELATIONSHIP BETWEEN SCHOOL MODERNIZATION AND BUILDING AGE, WITH PARTICULAR ATTENTION TO RENOVATION RATHER THAN NEW CONSTRUCTION TO MEET CHANGING EDUCATIONAL NEEDS, IS GIVEN. THE NEWSLETTER EMPHASIZES EDUCATIONAL ADEQUACY AS BEING MORE IMPORTANT THAN BUILDING AGE, AND DESCRIBES RENOVATION TECHNIQUES WHICH WILL FACILITATE THIS APPROACH. A MAJOR CONSIDERATION IS IN TEACHING NEEDS AND EDUCATIONAL METHODS AS CRITERIA IN ADDITION TO LIGHTING AND CLIMATE CONTROL WHICH SERVE PHYSIOLOGOCAL NEEDS. OTHER ITEMS INCLUDE DECISION MAKING PROCESSES, COSTS, FLEXIBILITY, AND TEACHER EDUCATION. CLARIFICATION OF THE TERM SCHOOL MODERNIZATION IS ALSO INCLUDED. (MM)

ERIC/CEF DOCUMENT NO. EF001474 ED 018 958 DISPOSITION-CERS 1

CONTRACT DOCUMENTS AND PERFORMANCE SPECIFICATIONS

FIRST CALIFORNIA COMMISSION ON SCHOOL CONSTRUCTION SYSTEMS, PALO ALTO

PUBLISHED-JUL63

269 PAGES

DESCRIPTORS- *BIDDING SPECIFICATION, *COMPONENT BUILDING SYSTEMS, *CONSTRUCTION PROGRAMS, *COSTS, *EDUCATIONAL SPECIFICATIONS, BUILDING DESIGN, CONSTRUCTION COSTS, SCHOOL CONSTRUCTION, SCHOOL PLANNING, SCHOOLS, STRUCTURAL SYSTEMS

A SET OF EDUCATIONAL SPECIFICATIONS DRAFTED BY THE FIRST CALIFORNIA COMMISSION ON SCHOOL CONSTRUCTION SYSTEMS GIVES INFORMATION ON BIDDING PROCEDURES, A DESCRIPTION OF THE CURRENT CONSTRUCTION PROGRAM, PROCEDURES FOR SUBMITTING A PROPOSAL, DATA AND CONDITIONS RELATED TO THE DEVELOPMENT PHASE OF THE PROJECT, COMPONENT CONTRACTS, AND GENERAL CONDITIONS AND PROCEDURES. PERFORMANCE SPECIFICATIONS ARE OUTLINED IN TERMS OF STRUCTURE, HEATING, VENTILATION, COOLING, LIGHTING-CEILING AND INTERIOR PARTITIONS. ALSO INCLUDED ARE MATERIALS--COST MATRICES, CONSTRUCTION TIMETABLES AND ADDENDA TO THE SPECIFICATIONS. (GM)

ERIC/CEF DOCUMENT NO. EF001516 ED 017 159 DISPOSITION-UFRC 1

PLANNING AND DEVELOPMENT PROCEDURES LEADING TO THE CONSTRUCTION OF EDUCATIONAL FACILITIES

BY- CONDON, JOHN T.
ARIZONA STATE BOARD OF DIRECTORS FOR JUNIOR COLLEGES

PUBLISHED-JUL67

034 PAGES

DESCRIPTORS- *COLLEGE PLANNING, *CONSTRUCTION NEEDS, *DATA COLLECTION, *EDUCATIONAL FACILITIES, *JUNIOR COLLEGES, CONSTRUCTION COSTS, DATA ANALYSIS, EDUCATIONAL SPECIFICATIONS, METHODOLOGY, STUDENT ENROLLMENT

THE PLANNING AND DEVELOPMENT PROCEDURES OUTLINED ARE FOR USE BY COLLEGE DISTRICT OFFICIALS AND PERSONNEL, ARCHITECTS, ENGINEERS, PLANNING CONSULTANTS, AND STATE OFFICERS IN CONNECTION WITH THE CONSTRUCTION AND FINANCING OF JUNIOR COLLEGE EDUCATIONAL FACILITIES. THE PURPOSE OF THE PROCEDURES IS TO EXPEDITE THE PLANNING PROCESS AND TO PROVIDE A MEDIUM FOR INTELLIGENT, ORGANIZED COMMUNICATION AMONG ALL CONCERNED. THE SEQUENTIAL STEPS IN THE METHOD ARE--(1) STATEMENT OF PROJECT NEED, (2) SELECTION OF ARCHITECT, (3) REQUEST FOR FUNDS, (4) EDUCATIONAL SPECIFICATIONS, (5) SCHEMATIC DESIGN PHASE, (6) DETAILED SPECIFICATIONS, (7) DESIGN DEVELOPMENT, (8) FINANCIAL PROGRAM, (9) CONSTRUCTION DOCUMENT PHASE, (10) BIDDING PROCEDURES, (11) RECORDS REQUIREMENTS, (12) CONSTRUCTION ACCOUNTS AND, (13) MINOR BUILDING PROJECTS. FORMS ARE INCLUDED FOR COLLECTING DATA NEEDED IN IMPLEMENTING OF THE STEPS. (HH)

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